US GAAP Taxonomy - Tips, Tricks, and Traps

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Abstract

This document provides tips, tricks, and traps for users of the US-GAAP Taxonomy. Its purpose is to increase the effectiveness of those working with interactive data (XBRL and the US GAAP Taxonomy). Related to this purpose, we also highlight inconsistencies and other issues within the US GAAP Taxonomy, helping users identify and work around issues. We also hope these observations will speed along any necessary adjustments to the taxonomy as well as any necessary improvements to the preparer's guides and other documentation such as perhaps the SEC EDGAR Filer Manual.

For accounting professionals, this document will help you understand and make use of the US-GAAP taxonomy as implemented. For the US-GAAP taxonomy user community in general, it will clarify and bring close the goals of interactive data compatibility, and financial reporting accuracy and comparability.

One objective of this guidance is to make this separate guidance unnecessary in the future. The underlying objective is a taxonomy, user guidance, and software applications which works together to provide an acceptable experience to the business user. Business users will know when this objective has been achieved.

Information in this document is summarized in the form of specific tips, tricks, and traps. These tips, tricks, and traps are intended to help those who already understand XBRL to understand it better. For those who have never been exposed to XBRL, these tips, tricks, and traps will make gaining that understanding easier. This document compares and contrasts different sections of the taxonomy in order to see how they are similar and how they are different. Using a metaphor, the guidance also helps users of the taxonomy who are adept and can see the trees to also understand that there is also a forest to consider.

This document assumes that its readers are CPAs, CFAs, and others with a good accounting and financial reporting background but who are trying to use the US GAAP Taxonomy and interactive data (i.e., XBRL as implemented by the US GAAP Taxonomy), probably for the first time. No technical knowledge is necessary to understand this document, but technical knowledge of XBRL will certainly help you get the most out of the document. This document may also be useful to technical users trying to understand how business users make use of the US GAAP Taxonomy.

Status

This document is a DRAFT. It contains information for the 60 networks (extended link) of the commercial and industrial entry point. There is no plan to do other entry points. We note that the XBRL architecture is the same for each industry.

Table of Contents

1 Introduction

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1.1 Organization

This document is organized to be used as a reference. It starts with a general overview of the US GAAP Taxonomy, providing the reader with a framework which can be used to understand the taxonomy. Next, tips, tricks, and traps are provided that relate to the taxonomy as a whole. After that, tips, tricks, and traps are provided that relate to specific networks within the UGT.

The following is the difference between a tip, trick, and trap:

- A **TIP** is generally information which helps a user to understand something which they might not otherwise see.

- A **TRICK** is a way to make something work given the potential limitations or hurdles in the current US GAAP Taxonomy, or an idea of how to achieve something which users of the UGT commonly desire to achieve.

- A **TRAP** is an issue to watch out for. For example, a common misinterpretation is a trap as is a possible error or inconsistency in the taxonomy.

These tips, trips, and tracks are organized in the sections or "networks" (described below) in which they exist. Or, if the tip, trick, or trap relates to the entire taxonomy or multiple sections, they are in the section which covers the entire taxonomy. There is some duplication and effort has been expended to make each tip, trick, or trap stand alone within the context it is used. Despite our best efforts, there are some redundancies.

1.2 Terminology

When discussing a topic, it is helpful if the parties participating in the discussion use the same terminology. With interactive data (i.e., XBRL as implemented for filing with the SEC, per the US GAAP Taxonomy Architecture, see: http://xbrl.us/Documents/SECOFM-USGAAPT-Architecture-20080428.pdf), it can be challenging to business users as this terminology of XBRL is not standardized and technical jargon which business users are not familiar with is used.

For example, some people use the term "Extended link", some software uses the term "Group", the XBRL Specification uses the term "Network of Relations", and so forth. Extended link is an XLink term and is generally incorrectly used since XLink extended links need to consider XBRL role attributes. Business users do not need to deal with interactive data at this level.

Further, there is a mixture of XML, XML Schema, XLink and other technical jargons which should really be hidden from business users altogether. In addition, there is not really a standardized terminology for multi-dimensional analysis. These things contribute to making understanding interactive data harder for a business user.

Business users also have a responsibility. Financial reporting using interactive data is not just akin to financial reporting on paper. Paper-based reporting is fixed and uses only a two dimensional space. Paper-based financials seem easier but this is because they do less. Interactive data provides vastly more utility, and in fact does more. To optimize this new utility, new terms are necessary. Not a lot, but some. Consistent terminology is beneficial, but not required; but it will certainly be of benefit to business users.

The following terminology is helpful to understanding this document and interactive data. This terminology is intended to be at a level which is useful to business users. An attempt is made to reconcile terminology here to other similar terminology which a business user may have been exposed to. This also points out the inconsistent use of such terminology, thus allowing for the possibility of agreement on one set of terms.

Users of this document are assumed to understand accounting and financial reporting terminology.

Term	Meaning
Concept	A Concept within the UGT that describes some piece of business data. Sometimes Concepts are referred to as "elements" since they exist within the physical taxonomy as XML Schema elements. But, not all XML Schema elements within a taxonomy are Concepts. Multi-dimensional analysis sometimes refers to concepts as primary items or measures to mean the same thing we refer to as a Concept.

Term	Meaning
Network; or Network of Relations	A Network or Network of Relations is a collection of Concepts organized for a specific purpose. A Network contains relations expressed between Concepts. There are generally two purposes for separating Relations into separate Networks: (a) to make something which is big, smaller and/or more modular; for example, breaking disclosures into separate networks as opposed to combining them into one network; and (b) because you must separate things when there is more than one relation; for example, there are two ways to calculate a total such as "Trade Receivables, Net". The first is to deduct "Allowance for Bad Debts" from the "Gross". The second is to add "Trade Receivables, Net, Current" and "Trade Receivables, Net, Noncurrent". The term "Network" or "Network of Relations" is an XBRL term. Another name for these are XLink extended links which have the same XBRL role; or rather, the set of extended links which have the same role. When we refer to Network we mean the resolved relations, not the "base set" which are the unresolved relations which includes relations which prohibit other relations.
Relation	A Relation is a connection of one Concept with another Concept for some purpose. Concepts can exist in more than one Relation. A Relation can be thought of as a *perspective*. There are generally three types of perspectives: presentation, calculation, and definition (defined below). A Relation is the relation part of "Network of Relations".
Label	A Label is a human readable label for a Concept. The Concept name is actually the unique identifier of a Concept. (The id is used to link Concepts to Relations within a Network of Relations.) The Label is what the business user will interact with in software applications when working with Concepts, not the Concept name. This is possible because every label in the US GAAP Taxonomy is unique. Labels can have languages, but in the UGT, there is only one language, "en-US", or the ISO language code for English as spoken in the US. Labels may have different roles - basically different Labels for different purposes. Every Concept has at least one "standard label". Concepts may have more than one Label, such as a total label, a start of period label, or an end of period label.
Documentation	Documentation describes the meaning of a Concept in human readable terms. Many Concepts, but not all, have Documentation. Documentation is intended to be clear enough to allow the business user to understand that he/she should be using one specific Concept, as compared to some different Concept. Documentation is not authoritative in any way. US GAAP is authoritative. Documentation is sometimes referred to as a definition, but we will use the term Documentation. Documentation exists in the form of an XBRL label with a specific role indicating that it is documentation, rather than a label.

Term	Meaning
References	A Reference provides pointers to authoritative literature for a Concept. (Note that common practices are also used within the UGT and contain no references). References do not provide all references to all authoritative literature, but rather, enough references to help identify and possibly differentiate one Concept with other Concepts within the taxonomy. References exist in the form of XBRL reference linkbases. References have parts. These parts are defined by FRTA (Financial Reporting Taxonomies Architecture). In extending the taxonomy you should use the FRTA parts and not define your own reference parts.
Presentation Relations	Presentation Relations is a type of Network. The Presentation-type network enables a user of the taxonomy to work with the Concepts within the taxonomy in some organization. Information from Presentation-type networks are also used to generate human readable views of Fact Values presented within interactive data documents. Presentation networks exist in the form of XBRL presentation linkbases.
Calculation Relations	Calculation Relations is a type of Network. The Calculations-type network documents the calculation relations which exist in between Concepts. Note that not all types of computations can be expressed by Calculations since XBRL calculations only work within the same context. As such, XBRL Formulas must be used to express certain types of computations.
Definition Relations	Definition Relations is a type of network. Definition relations are currently used to make dimensional information work as desired, can be automatically generated from presentation relations, and therefore tend to be unimportant to a business user as all necessary information can be understood from presentation relations. However, definition relations can be used for many other things such as to denote additional properties of a Concept.

Concepts have characteristics or attributes. The following is a summary of the characteristics important to business users:

Characteristic	Meaning
Name	The Name of a concept uniquely identifies the concept. The Name includes the taxonomy from which the Concept came. XML terminology differentiates the name and the qname (or qualified name).
Data Type	The Data Type is the type of data which is expected for the concept. For example "Monetary" and "String" are different types of data. Date Type uses XML Schema types and therefore applications tend to use XML Schema-type terminology. This terminology will likely be simplified within software applications.
Period Type	Each Concept is required to have a Period Type indicating that the concept is either reported "As Of" a certain point in time or "For Period" which indicates a concept is reported for a period of time. XBRL uses the term "instant" to mean "As Of" and "duration" to mean "For Period". All string concepts are duration. To be clear, for periods you must provide the beginning date of the period and the end date of the period in the software.

Characteristic	Meaning
Balance	A Concept may have a Balance. A Balance indicates if a Concept is normally a Debit or a Credit. Note that if a Concept has a Balance of "debit" and the actual value for the Concept, or Fact Value, is a "credit"; simply reversing the sign of the Fact Value turns the debit into a credit.

The following "markers" are used within labels of the UGT to indicate specific meaning. Understanding these terms makes it much easier to understand the UGT. If you look at a label you will see a marker such as "[Table]". For example, see the concept "Nonmonetary Transactions, by Type [Table]". The "[Table]" portion has meaning. The following is a summary of the meaning of these markers.

Marker on Label	Meaning
[Table]	Indicates the beginning of a [Table] which is used to explicitly assign dimensional information to a set of concepts. In XBRL terms, a [Table] is a hypercube. In multi-dimensional analysis a [Table] is similar to what is commonly referred to as a cube.
[Axis]	Indicates an [Axis] which is used by a [Table]. An [Axis] articulates a dimension of the [Table]. In XBRL terms, an [Axis] is a dimension. An [Axis] is referred to as a dimension in multi-dimensional analysis.
[Domain]	Indicates a [Domain] of an [Axis]. Typically the [Domain] is like the total value of the dimension. This is the same as the term domain in multi-dimensional analysis.
[Member]	Indicates a [Member] of a [Domain]. The [Member]s are the values of an [Axis] which is not a total (remember that the domain is the total). This is the same as the term member in multi-dimensional analysis.
[Line Items]	Indicates the [Line Items] of a [Table]. The [Line Items] are the fact values which can be reported within that [Table]. [Line Items] is only a container. In XBRL terms, a content of [Line Items] are primary items. In multi-dimensional analysis these are called measures.
[Abstract]	Indicates several different things including: (a) an abstract concept used simply to organize the taxonomy and would never be reported; (b) to indicate the beginning of a calculation modeling pattern; (c) to indicate the beginning of a hierarchy modeling pattern; or (d) to indicate the beginning of a set modeling pattern which is a set of concepts which must be used together and can repeat. Rather than overloading the marker [Abstract] with four meanings; four different terms could have been used to indicate these four different uses. (Note that it is possible to work around this issue.)
[Roll Forward]	Indicates the beginning of a [Roll Forward] modeling pattern. Other terms for this are movement and reconciliation. A [Roll Forward] has a beginning and ending balance for a concept, which is always an instant, and a duration concept which is the sum of all the changes for a the period between the beginning and ending balance.

Understanding the terminology of instance documents is important when constructing extension taxonomies, talking about taxonomies, etc.

Term	Meaning
Fact Value Concept	Each Fact Value is associated with a Concept from a Taxonomy.
Fact Value	A Fact Value is the value for a Concept within a specific Context, for a specific Concept, with specific Units if the Concept is numeric. For example "$200" is a Fact Value; "Cash" could be the Concept; "As Of December 31, 2008" is the Period portion of the Context; "for the consolidated entity" is the Entity portion of the Context; "in US Dollars" is the Units portion of the Fact Value.
Context	Each Fact Value has a Context. A Context indicates the Entity, the set of Axis Value or Values, and the Period to which the Fact Value relates.
Entity	Each Context has an Entity to which the Fact Value relates. [CSH: Not sure if this will always be a CIK number. Probably is. Need to look into this.]
Period	Each Context has a Period to which the Fact Value relates. The Period will either be "As Of" or "For Period", based on the Concept of the Fact Value. "As Of" is equivalent to the XBRL term instant. "For Period" is equivalent to the XBRL term duration.
Axis Value	A Context may have one or more Axis Values. If the Concept of a Fact Value does not exist within a Table, it has no Axis Values. If a Concept exists within a Table, the Context of the Fact Value must provide the value of each Axis within the Table which will be either a Domain or a Member. The UGT implies certain Axis Value(s).
Units	Each Fact Value that has a Concept which is numeric must provide a Units for the Fact Value. The Units might be something like "US Dollars", or "Euros", or "Shares", etc.
Decimals	Each Fact Value that has a Concept which is numeric must indicate the Decimals value of the Concept. Decimals indicate the level of rounding of the number, for example rounded to the nearest million, etc. The Decimals value could be "INF" which means basically "what you see is what you get". Basically, the Decimals value helps a computer do math with the concept correctly. If "INF" is used, the computer will make no assumptions, and simply use the value provided within the instance document as is in computations.

Multi-dimensional data analysis is becoming more and more popular in the age of the computer. Before computers, using multi-dimensional analysis was challenging as data is fixed within a business report which was commonly articulated on paper and changing the view was a manual process of recasting what was on the paper. The process was time consuming and expensive because it was labor intensive.

Computers change all that. A very good example of this is the Microsoft Excel Pivot table. A pivot table is dynamic. Pivot tables, and multi-dimensional analysis in general, do not work well with the two dimensional constraints of paper. A paper can only articulate two dimensions.

Multi-dimensional analysis has been used for many years in disciplines such as physics, engineering, and statistics. Business users are finding these tools useful also. Business

intelligence tools (BI) that have been developed over the past 15 years take multi-dimensional analysis to the next level. Business users are making use of multi-dimensional analysis more and more and therefore the terminology of this approach is important to understand.

Multi-dimensional data analysis breaks data down into two categories: dimensions and measurements. A dimension is an aspect along which data can exist. Measurements are the data which is reported, basically concepts. The dimensions and measurements of a specific analysis are organized into something which is commonly called a cube by BI tools.

Many make the mistake of trying to equate multi-dimensional analysis with the rows and columns of a table. This works in some cases but is a mistake because it mixes presentation characteristics with data and it limits the user to the two dimensions which can be physically expressed on paper.

Interactive data changes all of this. The US GAAP Taxonomy is constructed to easily fit into the multi-dimensional model being used by today's computer tools. Providing financial information in this interactive data format has many, many advantages. The primary advantage is flexibility, allowing users of the data to reuse data without rekeying the data. Unlocking financial data from the single use, inflexible, two dimensional presentation model offered by paper necessitates a change in thinking about data and understanding some new terminology.

The following is common multi-dimensional data analysis terminology which is used today. This also includes XBRL terminology reconciled to multi-dimensional terminology.

Term	Meaning
Cube	A Cube is a collection of measurements or Primary Items with a specific set of Dimensions. In the UGT a [Table] is an explicit Cube. However, everything in the UGT is really a Cube, either explicit or implied. Primary Items may exist in more than one Cube. A Cube is what XBRL Dimensions calls a hypercube. A Cube is similar to an Excel pivot table. Just like an Excel pivot table, it is easy to switch rows and columns, to pivot the Cube however the user sees fit.
Dimension or Axis	A Dimension, or what the UGT calls an Axis, is an aspect along which a Fact Value may exist within a specific Cube. Axes contain a Domain. A Domain contains Members. XBRL Dimensions calls these dimensions. There are a number of different characteristics an Axis may take.
	[Key Axis] – is a single Axis which makes the measurements unique. For a Key Axis, no two Fact Values within a Context may have exactly the same Key Axes.
	[Non Key Axis] – is an Axis which itself does not have to be unique (it can be used more than once within a Context).
	[Composite Key Axes] – is a set of Non Key Axis which, when combined, provide a Key Axis.
	[Rollup Axis] – The Members add up to the Domain. For example, the geographic areas of a business which adds up to the consolidated group; the geographic areas are Members and the consolidated group is the Domain.
	[Non-Rollup Axis] – The Members do not add up to the Domain, the Domain is not a reported sum.
Domain	A Domain is the portion of a Dimension and is the value or attribute that each member of the domain has in common with the other members. The Domain means "All" or "Total".

Term	Meaning
Member	A Member is a specific Concept that has the Domain in common with its sibling members.
Measurements or Primary Items	The Measurements or Primary Items is the collection of Concepts which exist within a Cube. A Concept may exist in more than one Cube. This means that Fact Values could be used by one or more Cubes. The Concepts included within the [Line Items] of a UGT [Table] are equivalent to measurements or primary items. XBRL Dimensions refers to these as primary items.
Quasi-Dimensions	A Quasi-Dimension is something that acts like a dimension (in terms of semantics), but is not expressed as a dimension (in terms of syntax). Entity information and Period information expressed in XBRL as part of a Context (not in the manner how dimensions are expressed by the XBRL Dimensions Specification) are Quasi-Dimensions. [CSH: It is unclear if Units is a Quasi-Dimension. Units seems to be a special case, but also acts a lot like a dimension]
Value Domain	A Value Domain is the set of possible values which a Domain, Member, or Primary Item may take. They are basically enumerations.

Finally, these are important terms.

Term	Meaning
Taxonomy	A Taxonomy is a collection of Concepts, Networks, Labels, Documentation, References, and references to other Taxonomies. A taxonomy can be thought of as somewhat like a dictionary in that it provides a list of Concepts. But unlike a dictionary, a taxonomy is also a classification system in that it reflects relationships between its components. In truth, a taxonomy is more like what most people all an ontology.
Interactive Data Document	An Interactive Data Document is a collection of Fact Values. Each Interactive Data document must provide a physical link to a Taxonomy (or collection of taxonomies) which includes the Concept of every Fact Value. Also, Interactive Data documents should only provide Networks which the preparer of the Interactive Data document intends the users of the document to make use of. For example, if the preparer of the Interactive Data document provides the Fact Values of a statement of cash flows using the indirect method, the Interactive Data document should NOT provide a Network for the direct method. An interactive data document is the same as an XBRL instance document.

All these components work together to make interactive data work. It is important that each preparer has the same understanding because if they do not, different understandings will mean interactive data documents would have different characteristics, causing investors and analysts to have to sort through these different understandings to make comparisons meaningful.

2 Overview of the US GAAP Taxonomy

We will start by providing an overview of the US GAAP Taxonomy (UGT). (Note that you can click on the links below and navigate to the URL.)

The US GAAP Taxonomy 1.0 is a set of physical files at an URL on the internet. The official version of the taxonomy is located at the following URL:

http://xbrl.us/us-gaap/1.0/

If you open this URL in a browser, it will look like the following screen shot which you see below:

```
xbrl.us – /us-gaap/1.0/
File   Edit   View   History   Bookmarks   Window   Help
◄  ►  C  +  http://xbrl.us/us-gaap/1.0/  ^  Q▾ Google
    Apple   Yahoo!   Google Maps   YouTube   Wikipedia   News (47) ▾        »

xbrl.us - /us-gaap/1.0/


[To Parent Directory]

        Monday, April 28, 2008  5:56 AM        <dir> dis
        Monday, April 28, 2008  5:56 AM        <dir> elts
        Monday, April 28, 2008  5:56 AM        <dir> ind
        Monday, April 28, 2008  5:56 AM        <dir> non-gaap
      Wednesday, April 30, 2008  2:00 PM         2063 readme.txt
        Monday, April 28, 2008  5:56 AM        <dir> stm
      Wednesday, April 30, 2008  3:12 PM        <dir> test
```

Here, you can read the "readme.txt" file to obtain additional information, navigate to subdirectories to see individual files, etc. Now, this is not really that useful to the business user. Using these files will be taken care of behind the scenes using software applications. But this does help one see what the taxonomy looks like and understand how things work.

What business users will want is some sort of rendering of the US GAAP taxonomy in some form. That form might be within an interface of some software application, a printout of the taxonomy in PDF or HTML, or information from the taxonomy in an Excel spreadsheet so you can take a look at what is in the taxonomy, or sort on or search for concepts, etc..

The information contained in the UGT relates to the pieces of US GAAP, including common practices and SEC regulations and so forth. The files contain information in a special format called XBRL (the eXtensible Business Reporting Language) which accountants, software vendors, regulators, analysts, and others got together and agreed upon. The benefit of this is that different accountants, software, regulators, and analysts have a new way to communicate about financial information, basically reducing friction within the financial reporting supply chain by, for example, eliminating the need to rekey data.

Not all information necessary for reporting is provided, but the vast majority is. The US GAAP and SEC concepts necessary to enable commercial industrial companies, banking and savings institutions, brokers and dealers in securities, insurance companies, and real estate companies to reports were intended to be provided. Other information for investment management companies exists, but not at this location and that is not covered by this document.

There are other industries and activities which companies participate in. Many of these are included within the taxonomy within the commercial and industrial industry. Other less used specialized reporting concepts are not yet created. There are approximately 15,000 concepts and 20,000 relationships expressed within the entire UGT.

If something is missing from the thousands of concepts and relations provided, preparers can create an extension to this set of taxonomies, submitting that extension taxonomy to the SEC. This leverages one of the primary features of XBRL, the ability to dynamically add

additional information and to customize the UGT to meet individual companies' reporting needs. The UGT is not a fixed chart of accounts.

Users will work with the taxonomy as part of preparing SEC filings, but users will also desire to simply take a look at and understand the taxonomy either because they are analysts, including regulators and individual investors, who use the information submitted by others and reassemble it to suit their needs. Or, they are preparers who must file with the SEC and need to navigate through the taxonomy, selecting the concepts needed to compile the instance document. Software will help both classes of business users.

As you use the UGT, it is important that you use it in the manner intended by its creators. The best existing source of this is preparer guidance provided by XBRL US. This guidance can be found at the following location:

http://xbrl.us/Documents/PreparersGuide.pdf

Another way to understand how to use the UGT is to take a look at existing filings which make use of it. There are a number of samples provided which can be found at this location:

http://xbrl.us/Documents/XBRLUSGAAPSamples-2008-03-31.zip

There is a great deal of other information relating to the UGT provided including technical information, case studies, the architecture of the UGT, etc.. This can all be found at the following URL:

http://xbrl.us/Pages/US-GAAP.aspx

One other piece of information which is helpful in understanding the UGT is the style guide used to create the taxonomy. That style guide provides what amounts to rules used when determining the labels of concepts. For example, spelling, capitalization, and other practices used are covered. That style guide can be obtained at the following location:

http://www.xbrl.org/us/usfrtf/XBRL-StyleGuide-RECOMMENDATION-2007-03-08.doc

This may all seem complicated as it is because: (a) US GAAP is complicated; (b) things have to be laid out clearly for computers to get them to understand what is being communicated correctly; and (c) much documentation and thought has gone into the process to create consistency, and thus making using the UGT easier.

In the long run, using the UGT and US GAAP will be made easy by the evolution of computer software. The complexity will be assumed by that software. The UGT is new, some software exists, and more and better and better software will be created. Business users will be able to do things which could never have been done before since the technology did not previously exist for these purposes.

2.1 Working with the Taxonomy

There are many different ways you can work with the UGT. A software application could download the taxonomy each time it needs it from the location above. Or, just like web pages, a software application could download it once and cache a local copy, checking to make sure nothing has changed.

Alternatively, you can download a ZIP file which contains a copy of the UGT from this location:

http://xbrl.us/Documents/XBRLUSGAAPTaxonomies-2008-03-31.zip

When you work with the UGT, typically you will work with a local copy or a cached version of the copy from the URL which a software tool will download for you. Again, good software will do all of this behind the scenes; you will not have to be concerned with it.

Another way to obtain the taxonomy for the purposes of viewing it is from the library hosted by XBRL US. The following URL will take you to an application where you can view the taxonomy within an interface provided. This amounts to somewhat of a library of the UGT which can be found here:

http://viewer.xbrl.us/yeti/resources/yeti-gwt/Yeti.jsp

Others may create similar libraries or viewers for specific purposes or with specific functionality.

In addition, the application above will take you to a specific point within the taxonomy. For example, this is a link to the Statement of Financial Position within the commercial and industrial company entry point:

http://tinyurl.com/5qz8mr or Statement of Financial Position

Another useful way to look at the taxonomy is to load it into another tool which is familiar to you. This is easy enough to do yourself, or you can use the following Excel spreadsheet which has the CI entry point loaded into an Excel spreadsheet:

http://xbrl.squarespace.com/storage/ugt/ci-EntryPoint-2008-07-13.xls

One of the advantages of Excel is that you can customize the view you want and search, sort, filter and use all of the other utility functionality provided by the application.

And thinking outside the box for a minute, imagine the UGT with an interface which looks something like this (be sure to try moving the bubbles around with your mouse):

http://www.visuwords.com/

Because the UGT is not a piece of paper of one format which locks out other possibilities, it is hard to imagine what someone might come up with as a way of viewing US GAAP. Over time, it is easy to believe that some clever person will come up with something quite interesting!

2.2 Organization of the Taxonomy

The UGT is organized to be modular, that is why there are about 500 different files, so you only have to see and use what it is that you need from the entire taxonomy set. There are several portions to the taxonomy, both GAAP and non-GAAP. We are focusing on the GAAP part here.

The GAAP portion of the UGT is broken down into the following industries or activities which drive how companies report or tend to report:

- Commercial and Industrial Companies (CI)

- Banking and Savings Institutions (BASI)

- Brokers and Dealers in Securities (BD)

- Insurance (INS)

- Real Estate (RE)

Each industry or activity is organized in the form of an "**Entry Point**". An entry point is the set of things which you would be using if you were, say, preparing a report for a specific company which was in a specific industry or activity. For example, if a preparer was an airline, they would not need the insurance or real estate entry point; they would need only the commercial and industrial companies' entry point, since this entry point will lead to the set of concepts that are directly relevant to airlines.

Within each entry point, concepts are organized into "Networks" or "Networks of Relations". These networks are intended to be in numeric order. Although each network has a meaningless number which can be used by software applications to put the networks in order, the order of the networks generally follows the order of a financial statement.

Within each network, "Relations" are expressed. These two are generally in the order they would appear within a financial statement. A relation is between two Concepts.

OBSERVATION: Most accountants prefer to look at the UGT as a big financial statement, focusing on presentation. This approach has some good characteristics and some bad characteristics. The taxonomy really is a data model. Modeling it as a data model also has

The following explains the logical model of the taxonomy. This logical model explains the pieces of the taxonomy, what each piece is and does, how the pieces interact and interrelate with other pieces of the taxonomy, and how everything fits together. From this perspective, the taxonomy is organized into the following components:

- Financial reporting "**Concepts**" are all organized within one physical file. There are approximately 15,000 concepts. These concepts do not cover all of GAAP, only the pieces which relate to what is reported within a financial report. The concepts include common practices. The concepts likely do not cover all details of every industry or activity. If a concept that a preparer needs but does not exist within the UGT, the preparer can add it by *extending* the taxonomy.

- Each financial reporting concept has at least one "**Label**" and can contain multiple different labels which are used for different purposes (for instance, a "Total Label" to label a total or a "Period Start Label" to label a beginning balance of a roll forward). All labels are in English currently. All the labels are in one physical file.

- Each concept MAY have either: (a) "**Documentation**" which describes the concept; or (b) "**References**" to authoritative literature which describes the concept. The documentation and the references are in separate physical files. The Documentation and References help users make sure they are selecting the appropriate concept. Not all authoritative references are in the taxonomy and the documentation is not authoritative or comprehensive - they both simply provide enough information to understand which concept is the appropriate concept.

- Concepts participate in "**Relations**". Concepts can be related to other concepts in different ways. The two most important types of relations to understand right now are the "**Presentation**" relation and the "**Calculation**" relation. The Presentation relations show how the concepts appear in the taxonomy (this can be somewhat similar to how they are presented in a financial statement, but not necessarily since different filers prefer to present things in different ways). The Calculation relations show many, but not all, of the ways concepts are typically added or subtracted to or from each other to arrive at a Concept representing a total value. Calculations cannot express certain relations, such as a roll forward computation or aggregation of dimensional information, due to limitations inherent in taxonomy software. The third type of relation is "**Definition**" type relations - these are generally automatically generated from creating the presentation relation, and are less important to understand right now; they exist for technical reasons to achieve some things and the software will deal with these behind the scenes in most cases. But, definition relations are very powerful. Currently, they are potentially underutilized in the UGT.

- "Relations" are organized into "**Networks**" (sometimes called extended links or groups). These networks are used to partition relations for two purposes: (a) to break the taxonomy into lots of little pieces which would make it easier to work with, as opposed to one big piece, and (b) because when there are two or more ways of expressing the same relation, they have to be physically separated for technical reasons. Networks enable this separation.

- Networks also serve as filters. The list of 15,000 concepts can be filtered by selecting the Networks which you want to use. This is done by either referencing an existing Network because it does what you need. This can also be done by creating your own Network. Users can create Networks in two ways. They can start from scratch and create their own Network by adding Concepts by establishing relations. Or, they can start with an existing Network and add new relations or remove existing relations and then save what they started with in a new location. A user may never physically alter an existing Network which someone else created.

- When relations are expressed, there are patterns underlying how these are created, and they tend to be consistent. These are called "**Modeling Patterns**" or styles and are basically structures and relations which have similarities. The relations in the UGT follow these modeling patterns. For example, the relation between something which is a **[Table]**, an **[Axis]**, a **[Domain]**, a **[Member]**, and **[Line Items]** have certain characteristics. These characteristics are consistent throughout the entire taxonomy. Another type of modeling pattern is the **[Roll Forward]**. There are other modeling patterns and we will discuss them later. The better the rules for the modeling patterns and the more consistently these rules are followed, the easier it will be for computer applications to then enforce these rules. Hence, business users will not have to enforce the rules manually. In essence, these patterns make it so that software can do things for you so you do not have to.

- All of these concepts, labels, documentation, references, networks of relations are organized within physical files.

- These pieces are physically connected together using the rules of XBRL, pulling together what you do need and ignoring what you do not need. This will be done behind the scenes by software applications because software applications understand these rules.

Software will assist business users in performing all of these tasks. Computers are not very smart - each step that a computer must perform must be explicitly spelled out. The better laid out things are, the easier it is for a computer to leverage what has been laid out. Not spelling things out correctly means more work for software developers, harder to use software for business users, more cost to business users, and reduced functionality to business users.

Agreeing on how things work is important. It may be the case that those building the taxonomy assumed that the UGT would be applied in a certain way. Some of this is outlined in the UGT Preparers Guide. To the extent that this is laid out, application will be consistent. If users of the taxonomy must form their own assumptions about the taxonomy, then it is possible that each user will be "right". But when 1000 different people do the "right" thing in different ways, analysts using SEC interactive data submissions will be frustrated and/or have to spend more money to write more software to which overcome the different interpretations of things not explicitly spelled out.

Keep in mind that the UGT is new. It was created by humans trying to figure out the best way to achieve a goal. As the taxonomy is used more; then more will be learned. The humans had to agree, to reach a consensus, as only one UGT could be built. What exists is what was agreed upon. Using the taxonomy will cause more learning to take place. The UGT as it exists is not the end point of the journey towards interactive data; it is the beginning, and it will continue to evolve.

It is highly unlikely that the organization of the UGT will satisfy everyone and all potential purposes. It is expected that preparers will reorganize the concepts within the UGT and use them how they wish to use them, but still file interactive data reports using the UGT. It is imperative that preparers utilize the UGT to the extent possible, and only create/extend unique (i.e., firm-specific) concepts when there is no other recourse. Too many extensions diminish the ability of investors and analysts to make comparisons across firms. Therefore, it is important that preparers "map" (identify) as many of their reporting elements to the taxonomy concepts as they can. Preparers have already identified problems and XBRL US has been recommending solutions during conference calls.

2.3 Understanding the Modeling Patterns Used Within the UGT

As was stated above, the UGT was organized using modeling patterns or styles. We will use "modeling patterns" as "styles" are used herein to mean other things relating to, for example, how to create labels.

A modeling pattern is something commonly used when working with computers. Basically, a modeling pattern can be thought of as a cookie cutter or a "jig". When you build something, a jig is used to make what you create consistent. Rules which are enforceable by a computer

can help business users understand and follow these modeling patterns. The more rules, the more the computer can enforce and the less that business users need to be bothered with. Accordingly, extension taxonomies created by preparers should follow these modeling patterns.

OBSERVATION: Currently, there is nothing that says that a preparer must follow the UGT modeling patterns. However, not doing so will cause problems relating to rendering and use of the financial information by investors and other analysts. Modeling patterns achieve a number of goals, the biggest one being consistency. If everything was done in a random way, it would make understanding the taxonomy extremely difficult. If things are done consistently, it makes things easier to understand.

The way the models can be seen in the UGT is to look at the labels within a concept. For example, consider the screen shot below:
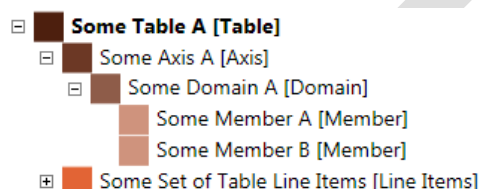
The concept "Some Table A …" has "[Table]" appended to the end. This is also the case for [Axis], [Domain], [Member] and [Line Items]. Colors and icons can be used to help users to visually differentiate one label with another. This is a simple example of how computers can do helpful things for users with this type of information.

The more consistent these rules, the more that a computer application can enforce these rules, meaning that the business user does not even have to really understand the rules; the computer will take care of making sure the rules are being followed. The alternative is also true; the less consistent the rules, the harder it is to enforce them and the less that a computer can do. As you can imagine, letting a computer do this has benefits for the business user.

In the UGT, there are several basic structures which were modeled using these modeling patterns. The following describes each of these briefly, and more detail will be provided later:

- **Tables** – A **[Table]** must have at least one [Axis]. An **[Axis]** can have only one [Domain]. A **[Domain]** may have zero or more [Member]s. A **[Member]** denotes the value of an axis, other than the [Domain] (a [Domain] basically can be seen as a total of domain members). A [Table] must have one and only one set of [Line Items]. [Line Items] are the text and monetary fact values that pertain to one or more domain members.

- **Roll Forward** – A **[Roll Forward]** has exactly three concepts as immediate children: a concept which has a beginning balance label, a concept which represents the changes during a period, and a concept which represents the ending balance of the first concept. The changes could be one concept or a collection of many concepts in the form of a calculation which adds to the total changes.

- **Abstract** – The **[Abstract]** concept is actually used to mean four separate things, that is, it is "overloaded". It is the authors' view that it would be better if four DIFFERENT markers were used, but this is not the case. These meanings are: [Calculation], [Set], [Hierarchy] and [Abstract]. However, there is a way to make these different, as we will see later. The following describes the implied meanings of the one marker [Abstract]:

   o The **[Calculation]** would be used to denote what are basically calculations. A calculation involves numeric concepts all of which are the same data type. All calculations have a total which is at the bottom of the calculation. Other calculations can be nested inside a calculation.

- o The **[Set]** would be used to denote concepts which always go together and repeat, for example, the nonmonetary transactions and subsequent events are good examples of a [Set]. Note that sometimes this abstract concept exists in certain parts of the taxonomy and in other parts it does not.
- o The **[Hierarchy]** is used for all other relations. Generally, a hierarchy is used to categorize a group of related concepts which are not related like sets or calculations.
- o The **[Abstract]** is used more in the higher levels of the taxonomy as a way of organizing the structures of other concepts - they really have no meaning themselves. These concepts are meant only as a means of hooking other concepts together.

We will explain modeling patterns more later as we discuss the individual pieces of the UGT. Here are some simple examples of each of these modeling patterns. Each example is as simple as possible so that the essence of the modeling pattern can be seen. A link is provided to the taxonomy library to each of these concepts so that you can go see what it looks like in a taxonomy.

- **Example of [Table]** (which includes [Table], [Axis], [Domain], [Member], and [Line Items]: Nonmonetary Transactions, by Type [Table]
- **Example of [Roll Forward]**: Goodwill [Roll Forward]
- **Example of [Calculation]**: Due to Related Parties, Noncurrent [Abstract]
- **Example of [Set]**: Nonmonetary Transactions [Line Items]
- **Example of [Hierarchy]**: General Policies [Abstract]
- **Example of [Abstract]**: Redeemable Preferred Stock [Abstract]

2.4 Understanding the Tables and Dimensions

Multi-dimensional data analysis is becoming more and more popular in the age of the computer. Before computers, multi-dimensional analysis was challenging as data was fixed within a business report which was commonly articulated on paper.

Computers change all of that. A very good example of a multi-dimensional analysis tool is the Microsoft Excel Pivot table. A pivot table is dynamic. Pivot tables, and multi-dimensional analysis in general, do not work well within the two dimensional constraints of paper. A paper can only articulate two dimensions. By definition, multi-dimensional analysis can have more than two dimensions.

Multi-dimensional data analysis breaks data down into two categories: dimensions and measurements. A dimension is an aspect along which data can exist. Measurements are the data which is reported, i.e., basically concepts. The dimensions and measurements of a specific analysis are organized into something which is commonly called a cube.

Many make the mistake of trying to equate multi-dimensional analysis with the rows and columns of a table. This is a mistake because it mixes presentation characteristics with data and it limits the user to the two dimensions which can be physically expressed on paper. Interactive data changes all this.

The US GAAP Taxonomy is constructed to easily fit into the multi-dimensional model being used by today's computer tools. Providing financial information in this interactive data format has many, many advantages. The primary advantage is flexibility. Unlocking financial data from the single use, inflexible, two dimensional presentation model most are familiar with takes a change in thinking about data and some new terminology.

[Table]s are a special type of modeling pattern. It is not actually a modeling pattern, but rather a modeling pattern which is used by other modeling patterns. It sits above a modeling pattern, assigning dimensional information to other modeling patterns.

In order to understand the [Table], one needs to understand how computers think and how different mechanisms for humans and computers work together.

You may or may not be familiar with the notion of multidimensional analysis, but it is important to have at least a basic understanding of multidimensional terminology to effectively understand and use the UGT correctly. You already use multidimensional principles and terminology but perhaps don't even realize it. It is actually quite simple.

Consider a corporation which might have a number of business segments. That corporation can be seen as a consolidated group, or say, it can be seen by its segments. Two common segments of a corporation are the business segments and the geographic areas in which the corporation operates. But both the business segments and the geographic areas have one thing in common – the consolidated group to which they belong. So for example:

- Business Segments – Pharmaceuticals, Generics, Consumer Health, Other Business Segments

- Geographic Areas – US and Canada, Europe, Asia, Other geographic areas

Many other things have similar types of relations:

- Debt – Debt has many different dimensions. It can be broken down by "long term" and "short term". It can be broken down even further, delineating the maturities of that debt, such as current, maturing in 2 years, maturing in 3, 4, or 5 years, or maturing thereafter. Or, debt can be broken out by class of debt instrument. But the total of each of these is the same thing….debt.

- Subsequent Events – Subsequent events can be broken down by type of event.

- Class of Stock – Both preferred and common stock can be viewed as the total amount of preferred or common stock which goes into the calculation of total liabilities and equity on the balance sheet, or by individual class, such as "Class A", "Class B", etc.

- Error Corrections and Prior Period Adjustments – Error corrections and prior period adjustments can be seen in total or by cause or type of error or adjustment.

The UGT has expressed these different dimensions using three different approaches:

- Some of these dimensions are **explicit**; the dimension is expressed using the [Table] modeling pattern. For example, the balance sheet is articulated as a [Table].

- Other dimensions are **implied**, meaning they are NOT articulated as a [Table]. For example, accounting policies is not articulated as a [Table], the fact that the dimension expressed relates to the consolidated entity is implied.

- The third approach is basically a **combination of explicit and implied**. This means that the portion of the UGT is expressed using a [Table], but there are [Axis] which are not explicitly stated but do exist. Then, other [Axis] are explicitly stated.

It could have been the case that all dimensional information within the UGT was expressed explicitly. Every concept does have a dimension, whether one refers to it in that manner or not. Humans are pretty smart and can figure this out, although because it is implied there is a chance that two different humans will imply two different things. The more challenging aspect of using three different approaches is when you try and get a computer application to figure out which things go together and which do not. The only way to do this is to give software application "hints" from outside the taxonomy to help the software realize that certain things that do not appear to have dimensions actually do and the hint will explain what the dimension is so the business users can get software to do what they want.

The following are the important aspects to keep in mind.

- Every fact value reported within an instance document has characteristics which "place" that face value for a concept within some cube. (A cube is this set of intersections)

- The [Table] is one way to explicitly express information. If it is implicit, you have to rely on the UGT Preparer's Guide or the SEC EDGAR Filer Manual to make sure that you are placing this fact value correctly.

- All of the concepts within these explicit [Table]s or implicit tables contain the same [Axis] upon which they can exist. There must be at least one [Axis], and there may be several which work together. One or more of these axes may be implicit. (These [Axis] are the dimensions)

- Within a [Table], all of these concepts exist as children of the [Line Items] portion of a [Table]. Within an implied table, the concepts exist as some group of concepts within the UGT. (These are "primary items" or measures.)

- All primary items have exactly the same set of [Axis] within a hypercube. A primary item can exist in more than one hypercube and therefore will have different [Axis].

- The intersections between the different cubes are enabled by the use of "default dimensions".

Within a taxonomy it is important that different Cubes fit together properly. If two Cubes do not have any concepts in common, there is nothing to really fit together. But, if two or more [Table]s have concepts which are used in both Cubes, proper structuring of the taxonomy will mean the taxonomy works correctly. Improper structuring can cause the taxonomy not to work. When considering this it is important to understand that the concept must fit, despite whether the Cube is explicit in the form of a [Table] or implied.

Consider the following example. Here we have a classified balance sheet which contains the line item "Deferred Revenue, Current":
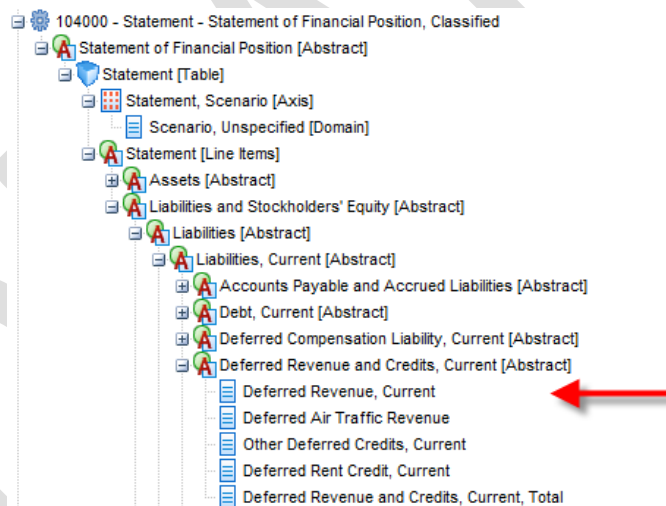
And consider this explicit [Table] which details the components of Deferred Revenue:
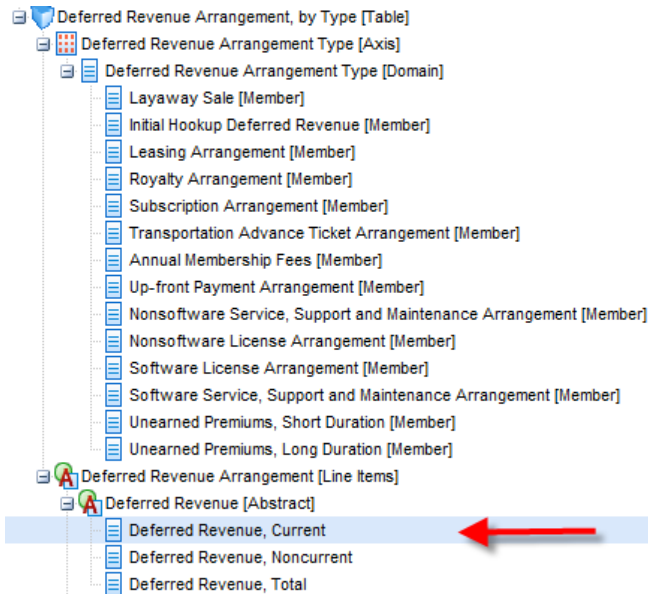
The concept "Deferred Revenue, Current" is the same in both [Table]s. Let's suppose that a reporting entity has (all current, assume for the example we are only working with one period):

- Layaway Sale Deferred Revenue of $200

- Royalty Arrangement Deferred Revenue of $300

- For total Deferred Revenue, Current of $500

Now, how many times to you think the fact value "Deferred Revenue, Current" would appear in an interactive data document? You are correct if you guessed once. The concept appears once, but there are multiple relations. But how can that be if it is used with two different axes: "Deferred Revenue Arrangement Type [Domain]" for the total of the breakdown [Table] and "Scenario, Unspecified [Domain]" for the row on the balance sheet, which is total "Deferred Revenue, Current". (You can see these on the screen shots above)

This is achieved by specifying the intersection points, which is almost always the [Domain], as the "default dimension". The default dimension basically "pivots" or "morphs" itself, depending on the Cube which you are using to view the data. This is how one Cube intersects with another Cube.

OBSERVATION: It is still an outstanding question how a [Table] which makes use of XBRL Dimensions interacts with concepts which do NOT participate within XBRL Dimensions. We point out that XBRL Formulas had two modes: dimensional and non-dimensional. It cannot really handle mixing the two.

Another thing to realize is that calculations within the Calculation Relations cannot test to ensure that this computation is valid. The reason is that the [Axis] values cause the context of the fact value to be different for each of the different [Axis] used. You can, and should, still validate this using XBRL Formulas which can perform cross-context computations such as this.

Clearly, all accountants understand the number of balance sheet and income statement line items which are detailed in the disclosures. Many of these are detailed using [Table]s. This same example applies to these other line items with information detailed using a [Table].

For more information about multidimensional analysis see:

- http://en.wikipedia.org/wiki/Multidimensional_analysis

2.5 Understanding Networks and Relations

Network or Network of Relations (we will call them Network) is another important building block to understand. Relations between concepts are built within a Network. When building a taxonomy you must have at least one network. Sometimes you can choose to break Relations up and use multiple Networks. Other times you must use multiple Networks, whether you want to or not, to achieve what you desire to achieve.

Separating Relations into multiple Networks is done for two basic reasons:

1. Keeping conflicts from existing when one parent concept has two or more possible sets of children concepts. For example, there are three ways to calculate "Receivables, Net":

    a. "Receivables, Gross" less "Allowance for Bad Debts"

    b. "Receivables, Net, Current" plus "Receivables, Net, Noncurrent"

    c. "Trade Receivables, Net" plus "Financing Receivables, Net" plus "Other Receivables, Net", etc.

2. When the creator of the taxonomy would like to create several smaller Networks rather than one big Network. For example, in the UGT, the disclosures are broken up into multiple Networks. Many of these could have been combined. Not all of them have been combined because of number 1 above.   Sometimes it is simply easier to work with several smaller pieces rather than one big piece.

Network is clearly not an accounting term. It is a way to describe something that does occur in accounting and financial reporting, though – there are occasionally multiple ways to compute values as one example.

There is no way to articulate a specific order for Networks in XBRL like you can express the order of concepts within a Relation. But there are ways to order networks, for example in the order that they appear within a taxonomy or in alphabetical order. The UGT uses alphabetical order as a default when no sequencing is otherwise made. That is why there is a number for every Network, for the purpose of keeping the Networks in an order which is reasonable for users.

It is possible to reorder Networks and not change the meaning of the information. Likewise, it is possible to reorder the Relations within a Network and not change the meaning of information. Not everything can be reordered, but some things can. This makes it possible for preparers to reorganize the UGT for their specific preferences. This reconstituted Network can be used internally within a company or even made available to others. The preparer can still submit their interactive data document using the UGT.

Likewise, it is possible for an analyst to reconstitute Networks for their preferences. If they do not like the way the preparer or GAAP adds things up, they can change the calculation Relations, for example. There is nothing wrong with that. This flexibility is the essence of interactive data.

There are three different types of Relations:

A. **Presentation relations** – which are used to help users view the concepts within a taxonomy and, at times, to help provide information necessary to render interactive data documents so that humans can read them.

B. **Calculation relations** – which are used to express certain types of computations when simple math is used and when fact values are within the same context.

C. **Definition relations** – which are being used in the UGT to communicate technical information about dimensions. Definition relations are quite useful but are not currently being used optimally. Also, definition relations are generally uninteresting to business users as they can be automatically generated from information within the presentation relations. Business users can pretty much ignore them if software correctly handles them.

It is important to use all the Networks containing the Relations you need, and to not use Networks you do not need. For example, if you created a classified balance sheet but then used the unclassified balance sheet Network and Relations, the users of your instance document would be confused by the presentation relations they see and the calculations would not work correctly.

2.6 Modeling Options, Syntax and Consistency

Throughout the UGT choices are made as how to model the components of the taxonomy. Whittling down the number of possible options to choose from reduces inconsistency. Having no choice enables the ultimate to be achieved – if something is to be modeled; only one way exists to model it. Having no choice seems like it may be a bad thing because having options is always a good thing. Right? Well, this is not always the case.

The ultimate test as to whether options are good is to be able to explain why one option was used in one case and another option was used in another case. If the explanation is logical, having the choices would probably be a good thing. If there is no explanation, or if the explanation is weak; then there is a strong possibility that two different options were being unconsciously used where one would do.

An example of this in the UGT is the use of concepts or the [Axis] of a table to collect information. Each approach is a viable and reasonable approach. The question is, what is the reasoning behind using one approach or the other approach. Examples of the approaches are provided below.

In the disclosures of the detail of accounts payable, concepts are used to articulate these details (note that there is no [Table]):
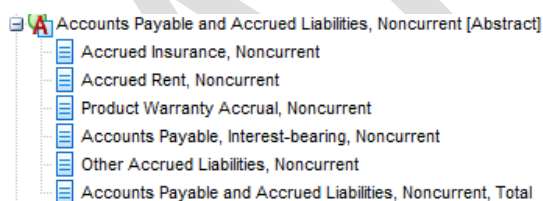
For deferred revenue, a [Table]-based approach is used (note the [Axis] which will capture what type of deferred revenue is being reported, whereas in the concept approach above, the concepts themselves will capture the information):
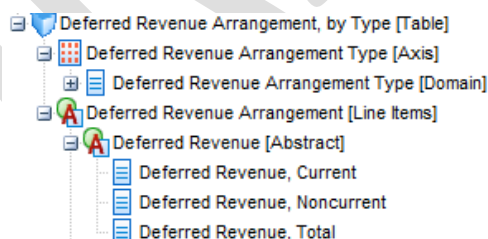
A third option is to use both. Consider this example of intangible assets. Here on the balance sheet, the components of indefinite-lived intangible assets are articulated using concepts:

And here, what appears to be the exact same concepts are articulated whereby the information would be captured within one concept, differentiated via the use of the [Axis] of the [Table]:

Schedule of Indefinite-lived Intangible Assets by Major Class [Table]
    Indefinite-lived Intangible Assets by Major Class [Axis]
        Indefinite-lived Intangible Assets, Major Class Name [Domain]
            Contractual Rights [Member]
            Franchise Rights [Member]
            Licensing Agreements [Member]
            Trademarks [Member]
            Trade Dress [Member]
            Trade Names [Member]
            Trade Secrets [Member]
    Indefinite-lived Intangible Assets by Major Class [Line Items]
        Indefinite-Lived Intangible Assets (Excluding Goodwill)

This same duplicate use of both approaches is used with property, plant and equipment also.

There are three rather obvious questions one might ask about this situation:

- Why are two approaches needed?
- When should each approach utilized?
- When should both approaches be used?

Generally, the higher in the structure of the taxonomy, then the higher the probability that a breakdown might be modeled as a concept. For example, consider a balance sheet:

Statement [Line Items]
    Assets [Abstract]
        Assets, Current [Abstract]
            Cash, Cash Equivalents, and Short-term Investments [Abstract]
                Cash and Cash Equivalents, at Carrying Value [Abstract]
                Restricted Cash and Investments, Current [Abstract]
                Short-term Investments [Abstract]
                Cash, Cash Equivalents, and Short-term Investments, Total
            Receivables, Net, Current [Abstract]
            Inventory, Net [Abstract]
            Prepaid Expense, Current [Abstract]
            Deferred Costs, Current [Abstract]

Let's start by considering the concept "Assets". That concept is broken down into two components, "Assets, Current" and "Assets, Noncurrent". One could choose to use concepts or dimensions to express this breakdown.

"Assets, Current" is broken down into a number of subcomponents, "Cash, Cash Equivalents and Short-term Investments", "Receivables, Net, Current", "Inventory, Net" and so forth. One could choose to use concepts or dimensions to express this breakdown.

Now switching to the other end of the spectrum, the details:

Schedule of Restricted Cash and Cash Equivalents [Table]
    Restricted Cash and Cash Equivalents, Cash and Cash Equivalents [Axis]
    Restricted Cash and Cash Equivalents Items [Line Items]
        Restricted Cash and Cash Equivalent Item, Description
        Restricted Cash and Cash Equivalents, at Carrying Value
        Restricted Cash and Cash Equivalents, Noncurrent
        Restricted Cash and Cash Equivalent Item, Purpose
        Restricted Cash and Cash Equivalent Item, Agreement

Using concepts at the higher level structures in the taxonomy seems obviously the right thing to do. Because of the benefits of [Table]s and dimensions, using these for the details seems obviously correct also.

But what is the specific point in a structure where one would switch from using concepts to dimensions to express this information and what is that point and why? Or, is it the case that two different choices are indeed needed for a specific reason, and what is that reason? Is there some reason both approaches might need to be used, and what is the reason for doing so.

These are the questions which those reading the UGT will likely want to understand, particularly when they need to construct such a structure within their extension taxonomy.

3 General Information (applicable to all networks)

We will now get into the meat of this document. This section contains tips, tricks, and traps relating to the taxonomy in general. This section presents topics applicable to every network within the taxonomy, the concepts in general, and so forth.

3.1 TIP: You will not need all components of the taxonomy.

The UGT covers nearly all industries or activities of entities which might file with the SEC. For each industry or activity there are also various alternatives covered. For example, both direct and indirect methods of creating a cash flow statement are provided for, yet a company would only use one of those two approaches in presenting the Statement of Cash Flows (although if you use the direct method, you will need to show the indirect method in a supplemental schedule – SFAS 95).

The following table helps users pick and choose what they might need from the UGT. It shows all GAAP components of the taxonomy. There are other components such as document and entity information, management report, audit report, etc which are not shown. Also, although we are focusing on the commercial and industrial companies, all financial reporting components are listed here which you may need to use for your company.

The sections are color coded to a degree to help you distinguish between alternatives, what is necessary for partnerships only, etc.

Network Description	Commercial and Industrial Companies (ci)	Banking and Savings Institutions (basi)	Brokers and Dealers in Securities (bd)	Insurance (ins)	Real Estate (re)
104000 - Statement - Statement of Financial Position, Classified	X				
108000 - Statement - Statement of Financial Position, Unclassified - Deposit Based Operations		X			
108050 - Statement - Statement of Financial Position, Unclassified - Deposit Based Operations (First Alternative)		X			
108100 - Statement - Statement of Financial Position, Unclassified - Deposit Based Operations (Second Alternative)		X			
108200 - Statement - Statement of Financial Position, Unclassified - Insurance Based Operations				X	
110000 - Statement - Statement of Financial Position, Classified - Real Estate Operations					X
110200 - Statement - Statement of Financial Position, Unclassified - Real Estate Operations					X

112000 - Statement - Statement of Financial Position, Unclassified - Securities Based Operations			X		
112201 - Statement - Statement of Financial Position, Unclassified - Securities Based Operations (Financial Instruments Alternative)			X		
124000 - Statement - Statement of Income (Including Gross Margin)	X				
124001 - Statement - Statement of Income (Discontinued Operations Alternative)	X				
124100 - Statement - Statement of Income (Excluding Gross Margin Alternative)	X				
124101 - Statement - Statement of Income (Excluding Gross Margin and Discontinued Operations Alternative)	X				
132001 - Statement - Statement of Income, Interest Based Revenue		X			
132010 - Statement - Statement of Income, Interest Based Revenue		X			
132020 - Statement - Statement of Income, Interest Based Revenue		X			
132030 - Statement - Statement of Income, Interest Based Revenue (Discontinued Operations Alternative)		X			
136000 - Statement - Statement of Income, Insurance Based Revenue				X	
136001 - Statement - Statement of Income, Insurance Based Revenue (Discontinued Operations Alternative)				X	
140000 - Statement - Statement of Income, Insurance Based Revenue (By Business Alternative)				X	
140400 - Statement - Statement of Income, Securities Based Income			X		
140410 - Statement - Statement of Income, Securities Based Income (Discontinued Operations Alternative)			X		
144000 - Statement - Statement of Income, Real Estate, Excluding REITs					X
144010 - Statement - Statement of Income, Real Estate, Excluding REITs (Discontinued Operations Alternative)					X
145000 - Statement - Statement of Income, Real Estate Investment Trusts					X
145010 - Statement - Statement of Income, Real Estate Investment Trusts					X
148400 - Statement - Statement of Other Comprehensive Income	X	X	X	X	X
148410 - Statement - Statement of Other Comprehensive Income (Alternative)	X	X	X	X	X
148600 - Statement - Statement of Shareholders' Equity and Other Comprehensive Income	X	X	X	X	X
148610 - Statement - Statement of Shareholders' Equity and Other Comprehensive Income (Alternative)	X	X	X	X	X
152000 - Statement - Statement of Partners' Capital	X		X		X
152200 - Statement - Statement of Cash Flows	X				
152210 - Statement - Statement of Cash Flows (Net Change Investments and Debt Alternative)	X				
160000 - Statement - Statement of Cash Flows, Deposit Based Operations		X			

	1	2	3	4	5
164000 - Statement - Statement of Cash Flows, Insurance Based Operations				X	
164600 - Statement - Statement of Cash Flows, Indirect, Insurance Based Operations (Net Change Investments and Debt Alternative)				X	
168400 - Statement - Statement of Cash Flows, Securities Based Operations			X		
168800 - Statement - Statement of Cash Flows, Indirect, Securities Based Operations (Net Change Investments and Debt Alternative)			X		
170000 - Statement - Statement of Cash Flows, Real Estate, Including REITs					X
170800 - Statement - Statement of Cash Flows, Indirect, Real Estate, Including REITs (Net Change Investments and Debt Alternative)					X
172600 - Statement - Statement of Cash Flows, Direct Method Operating Activities	X	X	X	X	X
190000 - Statement - Common Domain Members	X	X	X	X	X
200000 - Disclosure - Organization, Consolidation and Presentation of Financial Statements	X	X	X	X	X
250000 - Disclosure - Accounting Changes and Error Corrections	X	X	X	X	X
275000 - Disclosure - Risks and Uncertainties	X	X	X	X	X
285000 - Disclosure - Interim Reporting	X	X	X	X	X
290000 - Disclosure - Accounting Policies	X	X	X	X	X
300000 - Disclosure - Cash and Cash Equivalents	X	X	X	X	X
320000 - Disclosure - Receivables, Loans, Notes Receivable, and Others	X	X	X	X	X
320500 - Disclosure - Receivables, Loans, Notes Receivable, and Others (Loans Alternative)	X	X	X	X	X
330000 - Disclosure - Investments, Debt and Equity Securities	X	X	X	X	X
333000 - Disclosure - Investments, Equity Method and Joint Ventures	X	X	X	X	X
336000 - Disclosure - Investments, All Other Investments	X	X	X	X	X
340000 - Disclosure - Inventory	X	X	X	X	X
340010 - Disclosure - Inventory (Items Net of Reserve Alternative)	X	X	X	X	X
350000 - Disclosure - Deferred Costs, Capitalized, Prepaid, and Other Assets	X	X	X	X	X
360000 - Disclosure - Property, Plant, and Equipment	X	X	X	X	X
370000 - Disclosure - Intangible Assets, Goodwill and Other	X	X	X	X	X
400000 - Disclosure - Payables and Accruals	X	X	X	X	X
420000 - Disclosure - Asset Retirement Obligations	X	X	X	X	X
425000 - Disclosure - Environmental Remediation Obligations	X	X	X	X	X
430000 - Disclosure - Exit Or Disposal Cost Obligations	X	X	X	X	X
440000 - Disclosure - Deferred Revenue	X	X	X	X	X
450000 - Disclosure - Commitment and Contingencies	X	X	X	X	X
456000 - Disclosure - Guarantees	X	X	X	X	X
460000 - Disclosure - Debt	X	X	X	X	X
460100 - Disclosure - Debt (Long-term Debt by Component Alternative)	X	X	X	X	X
460200 - Disclosure - Debt (Long-term Debt by Maturity Alternative)	X	X	X	X	X

460300 - Disclosure - Debt (Long-term Debt by Component, Current and Noncurrent Alternative)	X	X	X	X	X
460400 - Disclosure - Debt (Long-term Debt by Component)	X	X	X	X	X
470000 - Disclosure - Other Liabilities	X	X	X	X	X
470500 - Disclosure - Other Liabilities (Warranty Accrual by Standard or Extended Alternative)	X	X	X	X	X
471000 - Disclosure - Other Liabilities (Warranty Accrual by Current or Noncurrent Alternative)	X	X	X	X	X
471010 - Disclosure - Other Liabilities (Shares Subject to Mandatory Redemption, Settlement Terms, Amount, Total)	X	X	X	X	X
472000 - Disclosure - Minority Interest	X	X	X	X	X
480000 - Disclosure - Temporary Equity	X	X	X	X	X
500000 - Disclosure - Equity	X	X	X	X	X
705000 - Disclosure - Compensation Related Costs, General	X	X	X	X	X
710000 - Disclosure - Compensation Related Costs, Share Based Payments	X	X	X	X	X
730000 - Disclosure - Compensation Related Costs, Retirement Benefits	X	X	X	X	X
740000 - Disclosure - Compensation Related Costs, Postemployment Benefits	X	X	X	X	X
750000 - Disclosure - Other Income and Expenses	X	X	X	X	X
760000 - Disclosure - Research and Development	X	X	X	X	X
770000 - Disclosure - Income Taxes	X	X	X	X	X
770500 - Disclosure - Income Taxes (Current and Noncurrent Alternative)	X	X	X	X	X
770510 - Disclosure - Income Taxes (by Geographic Segment)	X	X	X	X	X
775000 - Disclosure - Discontinued Operations and Disposal Groups	X	X	X	X	X
775100 - Disclosure - Discontinued Operations and Disposal Groups (Alternative)	X	X	X	X	X
778000 - Disclosure - Extraordinary and Unusual Items	X	X	X	X	X
780000 - Disclosure - Earnings Per Share	X	X	X	X	X
790000 - Disclosure - Segment Reporting	X	X	X	X	X
795000 - Disclosure - Statement of Cash Flows, Supplemental Disclosures	X	X	X	X	X
800000 - Disclosure - Business Combinations	X	X	X	X	X
800500 - Disclosure - Business Combinations (Netting Alternative)	X	X	X	X	X
802000 - Disclosure - Reorganizations	X	X	X	X	X
805000 - Disclosure - Derivative Instruments and Hedging Activities	X	X	X	X	X
805500 - Disclosure - Derivative Instruments and Hedging Activities (Reclassification to Earnings Alternative)	X	X	X	X	X
815000 - Disclosure - Fair Value Measures and Disclosures	X	X	X	X	X
820000 - Disclosure - Foreign Operations and Currency Translation	X	X	X	X	X
830000 - Disclosure - Leases, Operating	X	X	X	X	X
833000 - Disclosure - Leases, Capital	X	X	X	X	X
833500 - Disclosure - Leases, Capital (Netting Alternative)	X	X	X	X	X
836000 - Disclosure - Leases, Sale and Leaseback	X	X	X	X	X

840000 - Disclosure - Nonmonetary Transactions	**X**	X	X	X	X
845000 - Disclosure - Related Party Disclosures	**X**	X	X	X	X
865000 - Disclosure - Transfers and Servicing	**X**	X	X	X	X
865500 - Disclosure - Transfers and Servicing - Pledged Securities Not Reported	**X**	X	X	X	X
870000 - Disclosure - Subsequent Events	**X**	X	X	X	X
910000 - Disclosure - Contractors	**X**				
915000 - Disclosure - Development Stage Enterprises	**X**	X	X	X	X
940000 - Disclosure - Financial Services, Banking and Thrift		X	X	X	
940050 - Disclosure - Financial Services, Banking and Thrift, Interest		X	X	X	
940051 - Disclosure - Financial Services, Banking and Thrift, Interest (Interest Income by Security Taxable Status Alternative)		X	X	X	
940052 - Disclosure - Financial Services, Banking and Thrift, Interest (Interest Income by Security Type Alternative)		X	X	X	
940100 - Disclosure - Financial Services, Banking and Thrift (Deposit Liabilities Alternative)		X	X	X	
940200 - Disclosure - Financial Services, Banking and Thrift (Foreign Deposit Liabilities Alternative)		X	X	X	
940300 - Disclosure - Financial Services, Banking and Thrift (Deposit Liabilities by Customer Alternative)		X	X	X	
940500 - Disclosure - Financial Services, Banking and Thrift (FHLB Advances by Interest Rate Type Alternative)		X	X	X	
942000 - Disclosure - Financial Services, Brokers and Dealers		X	X	X	
942500 - Disclosure - Financial Services, Brokers and Dealers (Fair Value Alternative)		X	X	X	
943000 - Disclosure - Financial Services, Brokers and Dealers (Excess Net Capital Alternative)		X	X	X	
944000 - Disclosure - Financial Services, Insurance		X	X	X	
944500 - Disclosure - Financial Services, Insurance (By Type Alternative)		X	X	X	
948000 - Disclosure - Financial Services, Mortgage Banking		X	X	X	
955000 - Disclosure - Health Care Organizations	**X**				
965000 - Disclosure - Extractive Industries	**X**				
975000 - Disclosure - Real Estate	**X**	X	X	X	X
980000 - Disclosure - Regulated Operations	**X**				
991000 - Disclosure - SEC Schedule, Article 12-04, Condensed Financial Information of Registrant	**X**	X	X	X	X
993000 - Disclosure - SEC Schedule, Article 12-09, Valuation and Qualifying Accounts	**X**	X	X	X	X
993200 - Disclosure - SEC Schedule, Article 12-28, Real Estate and Accumulated Depreciation	**X**	X	X	X	X
993250 - Disclosure - SEC Schedule, Article 12-28, Real Estate and Accumulated Depreciation (Calc2)	**X**	X	X	X	X
993400 - Disclosure - SEC Schedule, Article 12-29, Mortgage Loans on Real Estate	**X**	X	X	X	X

993600 - Disclosure - SEC Schedule, Article 12-15, Summary of Investments - Other than Investments in Related Parties				X	
993800 - Disclosure - SEC Schedule, Article 12-16, Supplementary Insurance Information				X	
994000 - Disclosure - SEC Schedule, Article 12-17, Reinsurance				X	
994200 - Disclosure - SEC Schedule, Article 12-18, Supplemental Information (for Property-Casualty Insurance Underwriters)				X	

Note that an Excel version of the table above can be obtained at the following URL:

http://xbrl.squarespace.com/storage/ugt/ugt-Networks-2008-04-30.xls

3.2 *TIP: The numbers in the network description have no meaning.*

The numbers in the UGT networks have no meaning. They are put into the taxonomy in order to allow software tools to properly order the networks.

3.3 *TIP: The UGT is not totally organized like the new FASB Accounting Standards Codification, but it is to a degree.*

When the UGT was created it did take into consideration the FASB Accounting Standards Codification; however, the UGT is not organized 100% consistently with the FASB Codification project, see:

http://asc.fasb.org/home

The primary reason for this was because the codification was not complete at the time the taxonomy was being created.

Additionally, the GAAP references in the UGT are to the original pronouncements, as modified or amended, not the new codification. It is rumored that the FASB is working on creating references to the new codification. This shows the power of XBRL. When those references are available, it will be easy to: (a) use the current old references; (b) use the new codification references; or (c) use both sets of references to help you transition from the old to new references.

3.4 *TRAP: Don't misunderstand entry points.*

Don't make the mistake of misunderstanding entry points to the UGT. An entry point is NOT a taxonomy you will use when creating your interactive data filing. An entry point is basically documentation of a section of the taxonomy, a collection of networks which are applicable to a specific industry or activity.

For example, consider the CI entry point which can be found in the "ci" subdirectory (see the screen shot here) if you have a copy of the UGT locally on your computer:
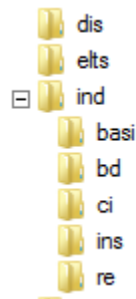
…or you can also find the entry point at the following URL, if you are using the UGT from its location on the internet:

http://xbrl.us/us-gaap/1.0/ind/ci/us-gaap-ci-stm-dis-all-2008-03-31.xsd

If you load this entry point, you will notice that, for example, you have several income statements, two cash flow statements, etc.. If you used the entry point, things will not work correctly.

But, you can take a copy of an entry point and then "prune" it of the unused networks which you do not use, or add additional pieces which you may need.

Another way to look at this is that you can: (a) start from scratch with nothing, building up what you need for your interactive data filing; or (b) start from an existing entry point and "prune" what you do not require, and then save the collection of networks you will use in your filing.

This may sound complicated, but software will make this process transparent to you. Software should help you get the correct set of files to use for your filing and hook them all together. Just realize, entry points should NOT be used for real filings, they are more for documenting the taxonomy and to use as a possible starting point.

3.5 TRAP: Not all important computation relations are expressed within the UGT.

The UGT expresses many important computation relations. But be careful, not all relations are expressed. This is not because the relations are not important, but because from a technical perspective, XBRL calculation relations cannot express these relations and the thing which can, XBRL Formulas, has not advanced to a point where it could have been used in the development of the taxonomy.

The biggest two missing sets of computations are the following:

- Roll Forward computations (sometimes also called a movement or reconciliation). The computation of a beginning balance + changes to that balance = ending balance in the roll forward.

- Summation of information expressed as dimensions. For example, nonmonetary transactions are expressed as where each class of nonmonetary transactions is articulated as a "Member" within an "Axis".

Again, ensuring that these computations are correct is critical to creating an interactive data submission to the SEC correctly. Many vendors support XBRL Formulas today and the UGT will likely include these required computations, in the form of XBRL Formulas, in the near future. But they are not there currently, so beware.

3.6 TRICK: Preparers can create an internal version of the UGT networks which they can use for preparing their filing, but file using the UGT.

It can be a lot easier to create and maintain a taxonomy which is used internally to create your financial filings, but then file with the UGT. Software vendors can make the process for converting from your internal version to the actual filed version transparent to the creators. This can be as simple as having an "on" or "off" switch on certain relations so you are not bothered by the thousands of relations you do not use, allowing you to focus on the relations and concepts which you do use.

When the preparer files with the SEC, the software simply switches the files which the interactive data filing points to (it is literally that easy) and files using the UGT available on the internet. The trick is that you have to make sure your software supports this workflow approach.

3.7 *TRICK: Use the labels which don't overload the [Abstract] marker in the UGT.*

As mentioned above, the marker [Abstract] which appears on labels is overloaded, meaning that the same term is used to mean four different things. This is very easy to work around, simply use a different label linkbase which does not overload these terms. You should simply use the label linkbase below during your internal creation of your financial report, and then when you file, use the UGT label linkbase. The labels which break these terms down can be found at this URL:

http://xbrl.squarespace.com/storage/ugt/us-gaap-lab-2008-03-31-PlusMarkers.xml

http://xbrl.squarespace.com/storage/ugt/us-gaap-lab-2008-03-31-PlusMarkers.zip

These labels replace [Abstract] with either [Calculation] or [Hierarchy] where appropriate, making it easier to read the taxonomy. All you need to do is reference this label linkbase within your internal taxonomy and the labels can be used. You can either use this in addition to the UGT provided labels internally, or in addition to them. When you go to file with the SEC, simply remove the reference to these labels, use the reference to the UGT labels and any company extension labels which you created.

Analysts can do the same thing. This requires an additional step or software which allows you to append a linkbase to a set of taxonomies.

3.8 *TRAP: Be careful about intermediate level concepts when calculations exist.*

Consider the following screenshot:
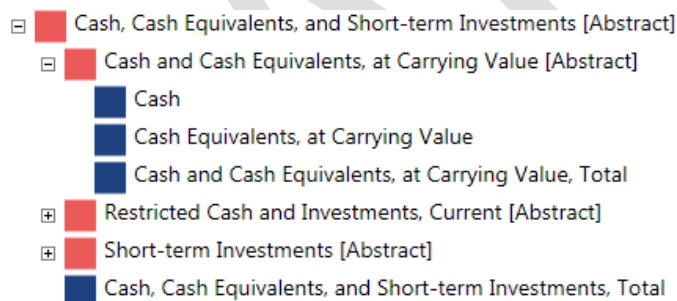
Imagine that a preparer wanted to simply report "Cash" as a line item on the balance sheet. In order to do so and to get the calculations to work correctly, the preparer would need to either:

a. Also report the concepts "Cash and Cash Equivalents, at Carrying Value, Total" and "Cash, Cash Equivalents, and Short-term Investments, Total" because these are intermediate level concepts which exist within the calculations relations. (The reason for this is because the rules of interactive data are such that an XBRL processor cannot imply values)

b. Rewire the calculations, removing the intermediate level concepts the preparer feels they do not want to report.

c. Submit a report where the calculations don't work correctly, which is not an option at all.

This same situation exists in many places in the UGT. The most troublesome area is the statement of income where all the different levels exist if you were to have things such as discontinued operations, extraordinary items, accounting changes, and so forth.

Option "a" is not seen as a good option because many preparers believe that this would be disclosing additional information.

Option "b" is not the greatest, because that is a lot of work.

Option "c" is not really acceptable. It is not a good idea to have calculations which exist but are not articulated within the taxonomy. This allows numbers to not add up correctly, unknown to creators and users of the financial information.

Another option might be for the SEC to allow for software to imply these values. It could be the case that some software vendor may get this algorithm wrong or that there is some situation where all algorithms for imputing these values are incorrect.

Personally, what we would suggest that the best option is to simply be explicit and use option "a" which is to report those intermediate values. This minimizes the work of creating extensions, follows the rules of existing software, and enables the highest possibility of comparisons and comparability. As we see it, it really does not disclose additional information as any human could calculation this intermediate level information; computers may always get the right answers if they imply the values a human could have easily provided.

Hopefully, a rule within the XBRL US preparers guidance or the SEC EDGAR Filer Manual will explain the preferred approach.

3.9 *TRAP: Presentation networks and Calculation networks are not always consistent.*

Presentation networks and calculation networks tend to be consistent, but this is not always the case. This is because alternative calculation networks were created within the taxonomy when there was more than one way to add different children together to sum to the same parent concept.

We will use an example to explain this situation. Consider the following screen shot:
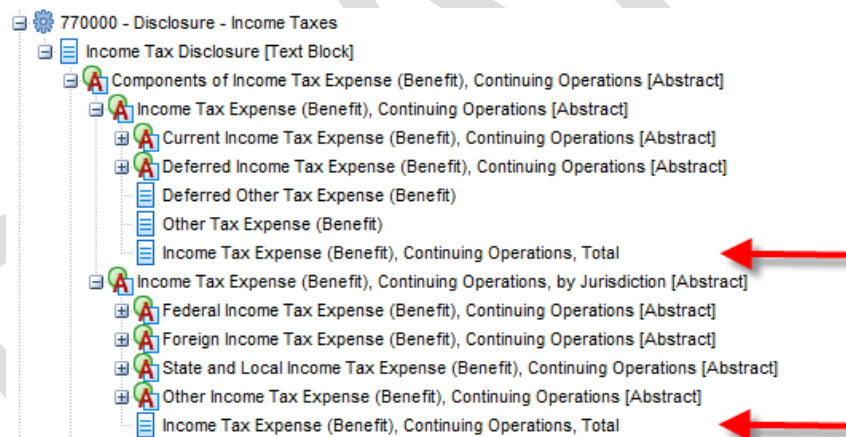
In the screen shot above note the label "Income Tax Expense (Benefit), Continuing Operations, Total". This concept is being used in two locations within the presentation relations 770000 "Income Taxes".

These two approaches to computing this total are impossible to express within the same Network of calculation relations. The reason is that if you did, the two different calculations would collide. So, to avoid this conflict, they are expressed in different calculation relation networks. See below:
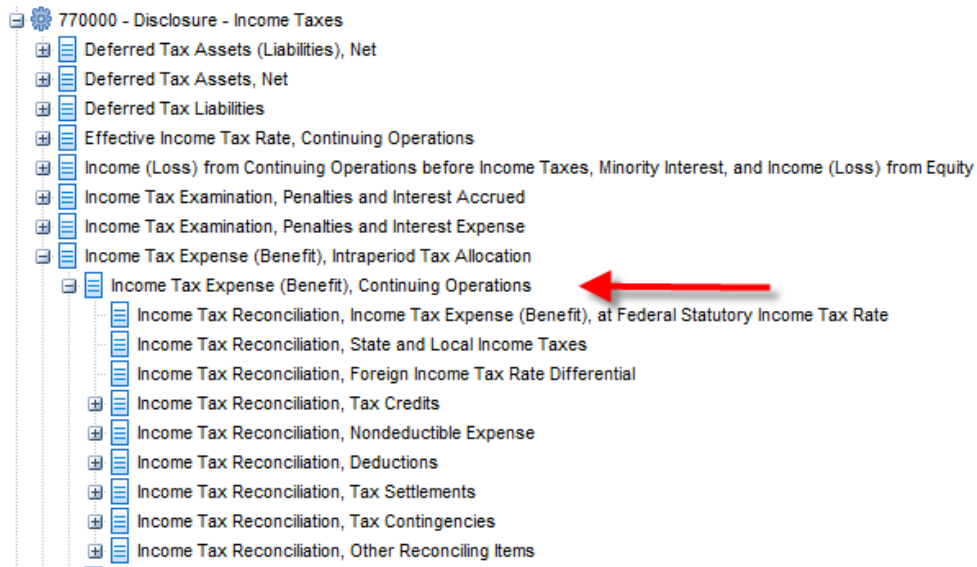
Notice that the number of this Network is the same as the presentation relation Network, 770000.

And here we see another form of the calculation, note that this is in a different Network, 770500.
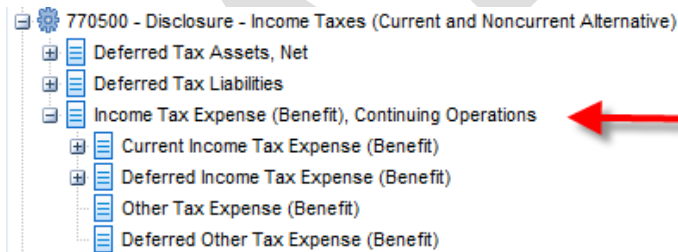
3.10 TIP: Presentation networks and Definition Networks are always consistent.

Definition relations in the UGT are always consistent with the presentation networks as they are auto generated from the presentation network. Business users should never have to create a definition network or edit a definition network. Software should auto-generate the definition network relations because they can. If your software does not do this, ask your software vendor why it does not.

3.11 TIP: The terms parent, child, and sibling are important to understand.

Many business users don't really use the terms parent, child, and sibling when talking about financial information. But the UGT does make use of these terms. They are important to understand. Consider the following example:
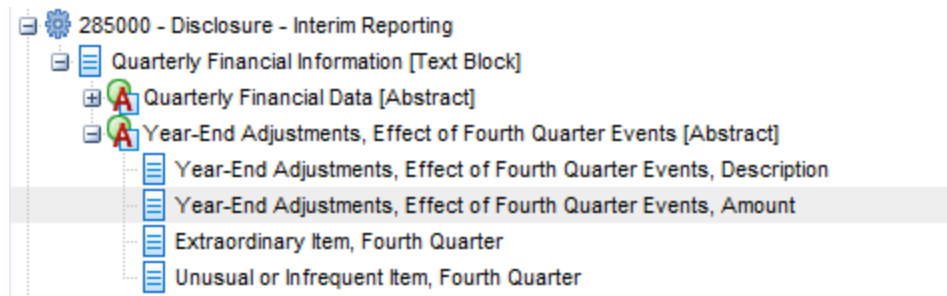
- "Quarterly Financial Information [Text Block]" is the **parent** of "Quarterly Financial Data [Abstract]"
- "Quarterly Financial Data [Abstract]" is a **child** of "Quarterly Financial Information [Text Block]"
- "Extraordinary Item, Fourth Quarter" and "Unusual or Infrequent Item, Fourth Quarter" are **siblings**

There are other terms such as ancestor but we won't go into those. XML has an entire model which describes all sorts of useful terms.

4   Statement – 104000 – Statement of Financial Position, Classified

The statement of financial position, or more commonly called a balance sheet in practice, is basically two big calculations: one for assets and the other for liabilities and equity. When a balance sheet is presented, it is commonly for the consolidated entity and for two fiscal year-ends.

In the UGT though, certain [Hierarchy]s of disclosures are sprinkled around in that big calculation which, in the view of the authors, may appear to clutter up the calculation. This was done because there is certain information which is presented on the face of a balance sheet which does not participate in these calculations (for instance, parenthetical disclosures).

Also, there are a few things which appear to be modeled imperfectly within the balance sheet. These relate to classes of temporary equity and classes of preferred and common stock, and these will be covered below.

4.1   TIP: The balance sheets (all balance sheets) have an implicit axis of business segment with a member of consolidated entity.

The following screen shot shows the [Axis] of the balance sheet:
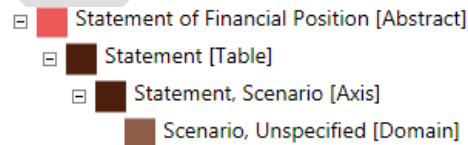
Note that there is nothing which indicates that the business segment [Axis] of the information reported on the balance sheet. There appears to be an implied axis, per the creators of the taxonomy, which everything on the balance sheet relates to the consolidated entity. It seems that the [Axis] "Statement, Scenario [Axis]" should say something about implying that this is the consolidated entity or have to do with business segments in the concept's definition.

This implied axis which assumes that the information reported is for the consolidated group and is assumed in many other areas of the taxonomy.

4.2 TRAP: Disclosures for information about classes of stock seems to provide for only two classes of stock.

Consider the following screenshot: (click here to view the concept/relations in the viewer)

```
⊟ ■ Preferred Stock, Number of Shares, Par Value and Other Disclosures [Abstract]
    ■ Preferred Stock, Par or Stated Value Per Share
    ■ Preferred Stock, No Par Value
    ■ Preferred Stock, Share Subscriptions
    ■ Preferred Stock, Shares Subscribed but Unissued
    ■ Preferred Stock, Shares Subscribed but Unissued, Value
    ■ Preferred Stock, Shares Authorized
    ■ Preferred Stock, Shares Issued
    ■ Preferred Stock, Shares, Outstanding
    ■ Preferred Stock, Value, Outstanding
    ■ Preferred Stock, Carrying Amount
    ■ Preferred Stock, Redemption Amount
    ■ Preferred Stock, Liquidation Preference
    ■ Preferred Stock, Conversion Basis
```

This is one of four similar sections within the UGT which articulates information relating to classes of stock.

There are two things which are important to realize. The first is that if you look at the balance sheet, it is a bunch of nested [Calculation] type patterns. Then, in the equity section it all of a sudden jumps to being a [Hierarchy] and it breaks the flow of the calculations. An alternative to this structure is to put the information relating to classes of stock within its own network, away from the calculations, but still in the balance sheet.

But the bigger issue here is that the information has the characteristics of a [Set]. It is a [Set] because: (a) there can be more than one class of stock and so, (b) it can repeat. It appears that a conscious choice was made to provide for two classes of stock, the one adding "Additional Series" to the label, basically duplicating the first set of class of stock information.

Currently, the definition for "Preferred Stock, Value" reads as follows: "Value of each class of issued nonredeemable preferred stock (or preferred stock redeemable solely at the option of the issuer) that may be calculated differently depending on whether the stock is issued at par value, no par or stated value. Note: elements for number of nonredeemable preferred shares, par value and other disclosure concepts are in another section within stockholders' equity." This suggests that the entity has treasury stock. It would be more technically correct if it read the following: "Value of each class of issued (or issued and outstanding nonredeemable preferred stock if there is no nonredeemable preferred treasury stock) …" This would permit entities that do not have treasury stock to also use this element.

4.3 TRAP: Temporary equity is a hierarchy imbedded within a calculation in the UGT.

A company could have multiple classes of temporary equity although this would be rare.   See the following section within this network: (click here to view concept/relation taxonomy in viewer).

Temporary Equity [Abstract]
- Temporary Equity, Redemption Value
- Temporary Equity, Value of Shares Subscribed but Unissued
- Temporary Equity, Shares Subscribed but Unissued, Subscriptions Receivable
- Temporary Equity, Share Subscriptions
- Temporary Equity, Shares Subscribed but Unissued
- Temporary Equity, Shares Authorized
- Temporary Equity, Shares Issued
- Temporary Equity, Shares Outstanding
- Temporary Equity, Carrying Amount

TIP: This is not a big deal for most preparers as most preparers do nott even have temporary equity, so they will not be using this section of the taxonomy. If you are one of those preparers who does have temporary equity, all you need to do is create an extension taxonomy to work around this problem.

Another way to model this is as a separate network so it does not clutter up the balance sheet which is basically one big set of [Calculation]s with a few disclosures modeled at the end in the form of a [Hierarchy].

5 Statement – 124000 – Statement of Income (Including Gross Margin)

The statement of income, or also called the income statement or statement of operations is also one big calculation. The statement of income is likewise for the consolidated group. Generally three periods are presented.

At the end of the statement of income is information about earnings per share if the entity is a corporation, or partnership units if the entity is a partnership.

5.1 TIP: The statement of income looks "upside down". But it really is not - that is just how most software vendors show the hierarchy.

Consider the following screenshot: (click here to navigate to the taxonomy)

Statement [Line Items]
- Net Income (Loss) Available to Common Stockholders, Basic [Abstract]
  - Net Income (Loss) [Abstract]
    - Income (Loss) before Cumulative Effect of Change in Accounting Princi
      - Income (Loss) before Extraordinary Items and Cumulative Effect of 0
        - Income (Loss) from Continuing Operations [Abstract]
          - Income (Loss) from Continuing Operations before Income Tax
            - Operating Income (Loss) [Abstract]
              - Gross Profit [Abstract]
                - Revenues [Abstract]
                - Cost of Revenue [Abstract]
                - Gross Profit, Total
              - Operating Expenses [Abstract]
              - Other Operating Income
              - Operating Income (Loss), Total
            - Nonoperating Income (Expense) [Abstract]
            - Interest and Debt Expense [Abstract]

An accountant would expect that the income statement starts with "Revenues". Rather, it starts with "Net Income (Loss) Available to Common Stockholders, Basic". This is only a property of the applications rendering the taxonomy. The taxonomy is expressed as a

hierarchy. Not many software applications have received feedback that this inverted view is "funky" to accountants. Eventually, if users want other views, they will communicate this information to software developers who will change their software. Or, accountants may prefer this inverted view.

The reason the hierarchy is inverted is that it works from the top to the bottom. The top level concept of the income statement technically is "Net Income" into which all the other concepts feed, adding credits, removing debits, to arrive at the net credit or debit to "Net Income".

5.2 TIP: A few text disclosures break up the numeric calculation flow relating to discontinued operations.

Hiding within the income statement is a number of string concepts which really do not participate in the calculation.   Also, if you look at the calculations linkbase you will note that the presentation relations and the calculations are not consistent. All this is isolated to one area of the statement of income - discontinued operations.

See the following screen shot:
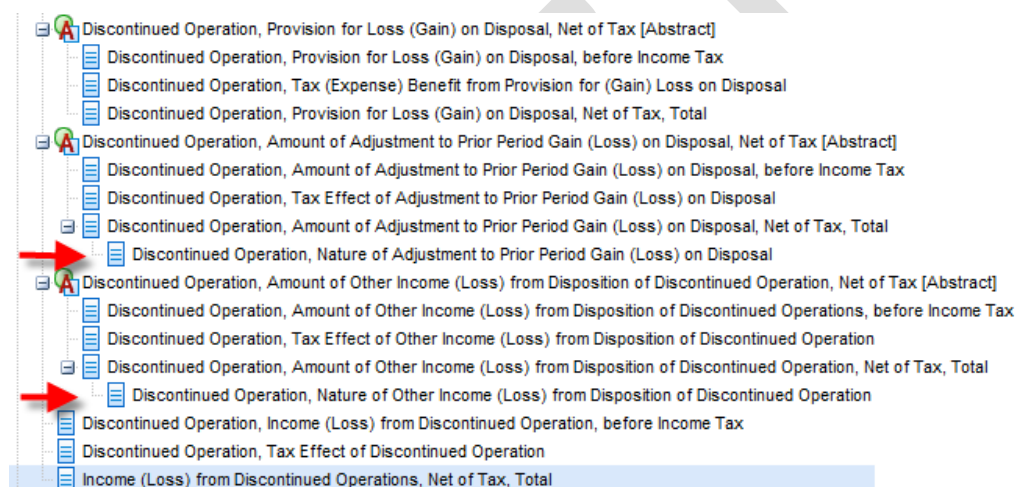
These two string concepts are disclosures which need to appear on the income statement. The taxonomy creators put these within the calculations, rather than perhaps put them within a separate extended link or within a [Hierarchy]. This lone inconsistency breaks the flow of all the other [Abstract] concepts within the income statement which really are calculation modeling patterns.

Another way to model this would be to keep the calculations consistent and put the two disclosures within a separate modeling pattern right after the income statement and put the disclosures there. This would locate them just after the income statement calculations, just before the earnings per share information.

OBSERVATION: It seems like it might be a good idea to put the partnership unit information in a separate file. The reason for this is that the vast majority of SEC filers are corporations. Burdening the corporations with this partnership related information seems unnecessary. Likewise, having it so partnerships don't have to use the EPS information makes sense. Seems like more modularity is in order.

5.3 TRAP: The type and periodType of the concept "Weighted Average General Partnership Units Outstanding" appears incorrect.

Consider the following screenshot: (click here to navigate to the taxonomy)
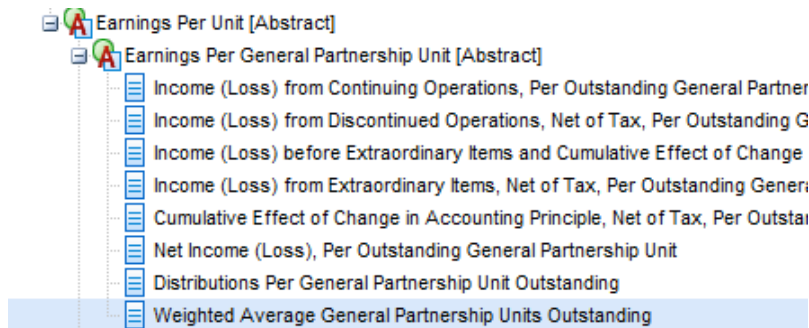
The concept has a type of "xbrli:sharesItemType" but all the siblings and the set of concepts below it (which relates to the same information, except for limited partnership units) have a type of "us-types:perUnitItemType". It appears that the type of this concept is incorrect and should be "us-types:perUnitItemType".

Additionally, the periodType of this concept is "instant" yet all the siblings are duration, as is the information below relating to limited partnership units. The type most likely should be "duration" for this concept.

The suggested solution to this issue is to extend the taxonomy, adding a new concept with the correct type and periodType. Another alternative is to report using the existing concept as the concept is not involved in any calculation relations.

6 Statement – 148600 – Statement of Shareholders' Equity and Other Comprehensive Income

The Statement of Shareholders' Equity and Other Comprehensive Income is one of the more unique networks in the UGT.

Consider the following screenshot: (click here to navigate to the taxonomy)
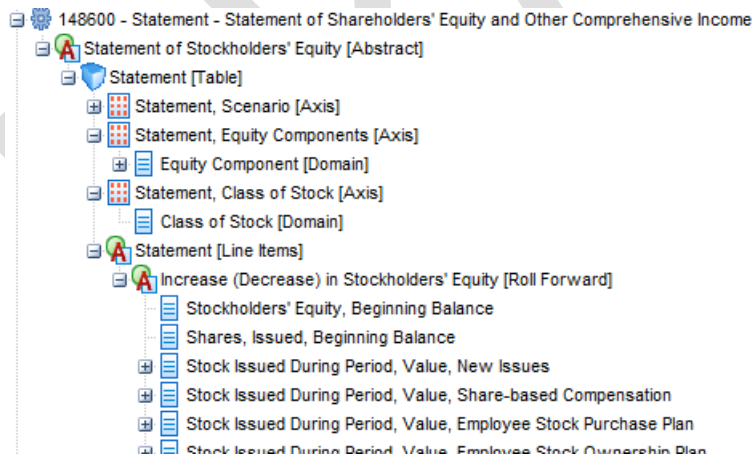
This network is basically one [Table]. The [Line Items] of the [Table] is a [Roll Forward]. The [Table] has three [Axis]: Statement, Scenario [Axis] which is similar to the other statements; Statement, Equity Components [Axis] which appears to be a list of all the different balance sheet line items of equity and it appears that preparers are to match the [Line Items] with the [Axis]; and the Statement, Class of Stock [Axis] which enables line items to be applied to class of stock if presented in that way, as well as to Statement, Equity Components [Axis].

Further, the classes of stock within the disclosures for equity (number 500000) are different in two ways. First, they break "stock" into preferred and common, here they are together. Second, they are different axis so computer applications will not be able to put things in the

statement of equity and in the equity disclosures together as the computer cannot understand that they are the same thing. Another way of saying this is that the stock of a company is the same in all parts of the statement, seems like the same axis should be used throughout the taxonomy. This lack of consistency in the axis which will cause computers to not connect summary information and detailed information used between Statements and Disclosures is not just limited to the Stockholders' Equity section of the taxonomy; it also crops up in other areas of the taxonomy.

[CSH: To do. Need to figure out how to handle this.]

7 Statement – 152200 – Statement of Cash Flows

This extended link contains the indirect cash flow statement method. The cash flow statement is basically a big [Roll Forward] with deep, deep detail of the concepts which make up the changes in cash.

Consider the following screenshot: (click here to navigate to the taxonomy)
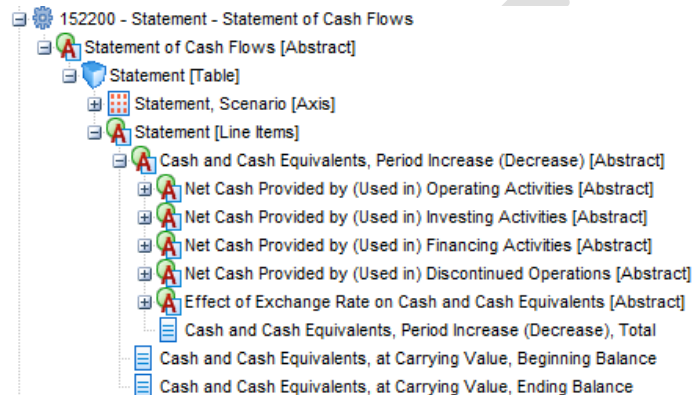
Note that network 795000 Disclosure – Statement of Cash Flow, Supplemental Disclosures contains the supplemental disclosures.

OBSERVATION: It is interesting that the balance sheet and income statement bury disclosures within calculations, but with respect to the cash flow statement, these disclosures, many of which appear in the face of the cash flow statement are in a separate extended link, in the disclosures.

7.1 TRAP: It does not have the [Roll Forward] marker and the beginning and ending balances are in different locations than other [Roll Forward]s; but the statement of cash flow is just a big [Roll Forward].

See the screen shot above. Note that the [Roll Forward] marker is not the starting point of this [Roll Forward]. And note that location of the beginning and ending cash, both on the bottom as opposed to the beginning balance being the first child in all other [Roll Forward]s. But, this really is just another [Roll Forward]. A big one, but a [Roll Forward] none the less.

8 Statement – 172600 – Statement of Cash Flows, Direct Method Operating Activities

This extended link only contains the concepts which make up the net cash flows from operating activities which would be reported using the direct method, as opposed to also

including cash from investing and financing activities, and the beginning and ending cash balances, as reflected in the indirect method reported in the previous network. (click here to navigate to the taxonomy)

```
☐ ⚙ 172600 - Statement - Statement of Cash Flows, Direct Method Operating Activities
   ☐ Ⓐ Operating Cash Flows, Direct Method [Abstract]
      ☐ 🔷 Statement [Table]
         ⊞ ▦ Statement, Scenario [Axis]
         ☐ Ⓐ Statement [Line Items]
            ☐ Ⓐ Net Cash Provided by (Used in) Operating Activities [Abstract]
               ☐ Ⓐ Net Cash Provided by (Used in) Operating Activities, Continuing Operations [Abstract]
                  ⊞ Ⓐ Proceeds from Operating Activities [Abstract]
                  ⊞ Ⓐ Payments for Operating Activities [Abstract]
                     ▤ Net Cash Provided by (Used in) Operating Activities, Continuing Operations, Total
               ▤ Cash Provided by (Used in) Operating Activities, Discontinued Operations
               ▤ Net Cash Provided by (Used in) Operating Activities, Total
```

Note that if a direct cash flow statement is used by a preparer, then the indirect cash flow break down of "Net Cash Provided by (Used in) Operating Activities, Continuing Operaions [Abstract]" must be provided as a supplemental disclosure (SFAS 95).

8.1 TRAP: There is not a really good way to get rid of the indirect method operating activities if you want to use the direct method cash flow statement.

Consider the following screenshot: (click here to navigate to the taxonomy)

```
☐ Ⓐ Statement [Line Items]
   ☐ Ⓐ Net Cash Provided by (Used in) Operating Activities [Abstract]
      ☐ Ⓐ Net Cash Provided by (Used in) Operating Activities, Continuing Operations [Abstract]
         ⊞ Ⓐ Proceeds from Operating Activities [Abstract]
         ⊞ Ⓐ Payments for Operating Activities [Abstract]
            ▤ Net Cash Provided by (Used in) Operating Activities, Continuing Operations, Total
      ▤ Cash Provided by (Used in) Operating Activities, Discontinued Operations
      ▤ Net Cash Provided by (Used in) Operating Activities, Total
```
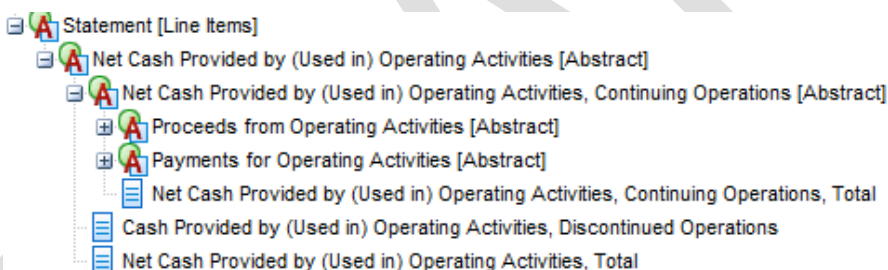
When a preparer wants to use the direct method cash flow statement, there really is no way to do this without creating an extension component to take care of this. The problem is that if you use both this network and the indirect network, you would have calculation problems because an XBRL processor would try to also do the calculation for the indirect cash flow statement, even though you only want the direct method.

Preparers can get around this by prohibiting all of the indirect method calculations relating to the indirect method computation of operating activities. But then you have another problem; rendering. You will still have two partial fragments that will not be combined.

Another way to do this is to create an entire direct cash flow statement.   The down side to this approach is that one would end up creating a duplicate version of the cash flows from investing and financing activities, one for each method. But the rendering would be all together in one spot, not spread across two networks. All things considered, this alternative appears superior to having two fragments in a rendering.

But on the other hand, if you have two complete cash flow statements (direct and indirect), but then you use the direct method on the statement and then you must disclose the indirect approach to breaking down operating cash flows you only have the full indirect cash flow statement to use.

Yet another alternative is to have each of the direct and indirect operating cash flows each in a separate network.   You would have a third network which provides only the total for "Net

Cash Provided by (Used in) Operating Activities, Continuing Operations" but all the details for investing and financing activities cash flows. The downside of this is that the computations would be in different places, not together as you would expect for a compete statement.

The point is that every situation is a trade off. Understanding the different options can help one make the best choice.

9 Disclosure – 200000 – Organization, Consolidation and Presentation of Financial Statements

The Organization, Consolidation and Presentation of Financial Statements Network contains disclosures relating to collaborative arrangements and general information about the organization, consolidation policies, information related to presentation of the financial statements, the liquidity disclosure, and information about limited liability corporations and partnerships . (click here to navigate to the taxonomy)
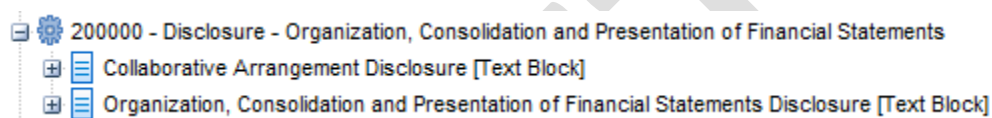
The Network contains mostly simple [Hierarchy]s of information. There are two very straight forward [Table]s.

9.1 TRAP: A good portion of the disclosures is a duplication of the "General Policies" Section of Accounting Policies.

A good portion of this Network is a duplication of what is also contained within the Network 290000, Accounting Policies. Here is a screen shot of this Network:
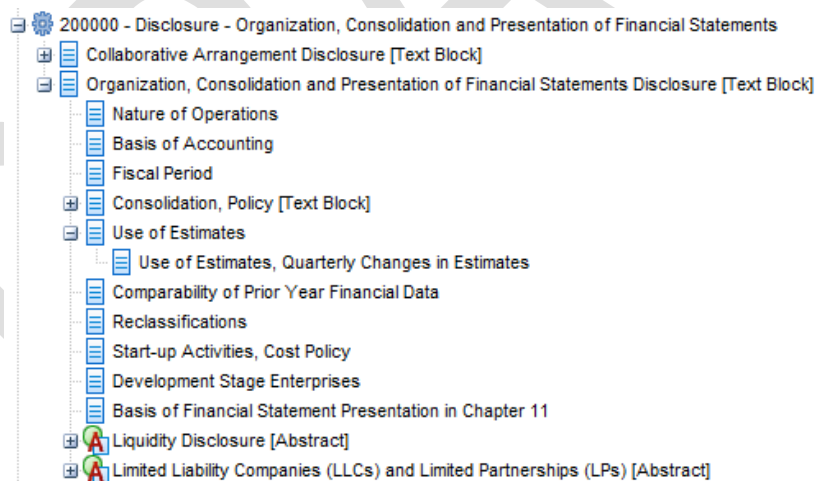
And here is a screen shot of the 290000 Accounting Policies, "General Policies" structure:
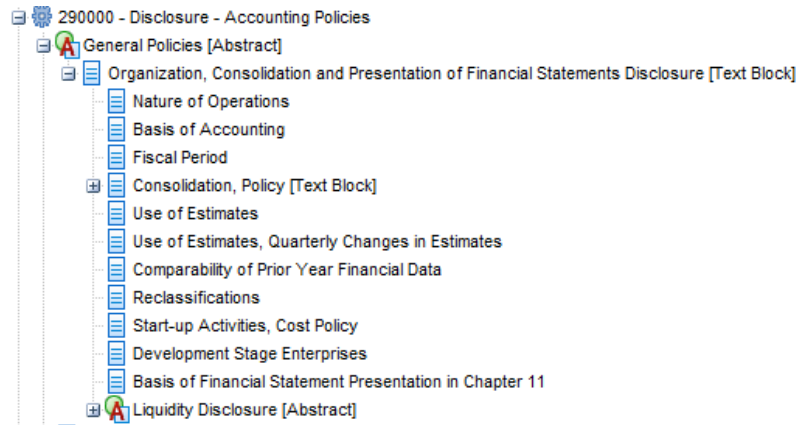
The duplication can be clearly seen, but not everything is duplicated and some of the structures are different. For example, note the placement of "Use of Estimates, Quarterly Changes in Estimates"; in 200000 as a child of "Use of Estimates" and in 290000 as a sibling to "Use of Estimates". Also, note that the last concept tree in 200000 "Limited Liability Companies…" is not contained in the 290000 Network. Note also that there is an accounting policy element buried under "Limited Liability Companies (LLCs) and Limited Partnerships (LPs) [Abstract]". This element, Limited Liability Company (LLC) or Limited Partnership (LP), Business Combination Accounting Treatment" does not appear under Disclosure 290000 when it probably should.

You will likely need concepts from both locations.

10 Disclosure – 250000 – Accounting Changes and Error Corrections

This network contains information relating to changes in accounting estimates, new accounting pronouncements, changes in accounting principle, prior period adjustments, prior period misstatements corrected in the current period, changes in reporting entity, and immaterial error corrections. (click here to navigate to the taxonomy)
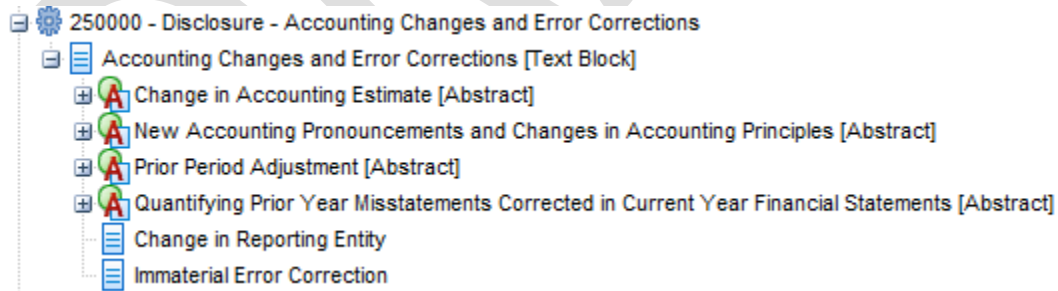
This network uses a [Table] in each of these major categories to allow preparers to report this information.

10.1 TRAP: The line items of the table Schedule of Error Corrections and Prior Period Adjustment Restatement [Table] has no concepts.

Consider the following screenshot: (click here to navigate to the taxonomy)
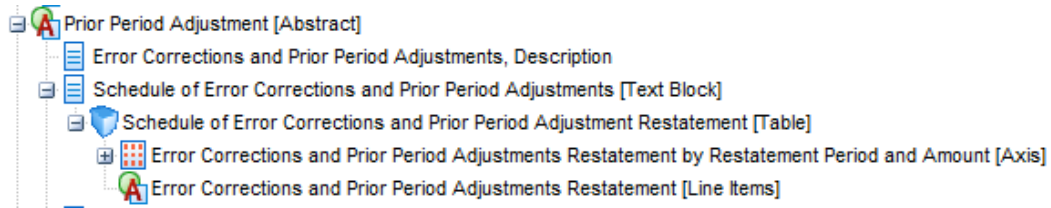
If you go to the table Schedule of Error Corrections and Prior Period Adjustment Restatement [Table] and you will see that "Error Corrections and Prior Period Adjustments Restatement [Line Items] has no children.

The [Line Items] concepts are the financial statement elements that were restated.

11 Disclosure – 275000 – Risks and Uncertainties

The risks and uncertainties network includes concentration risks disclosures, uncertainties, and unusual risks and uncertainties disclosures. (click here to navigate to the taxonomy)

The Risks and Uncertainties is straightforward. There are two tables and one set of concepts which probably could have been articulated as a table, but for some reason was not. See the concept "Concentration Risks, Types, No Concentration Percentage [Abstract]" and all of its children.

11.1 TIP: The hierarchy of concepts under "Concentration Risks, Types, No Concentration Percentage [Abstract]" and "Concentration Risk [Table]" is a good example of what amounts to the same thing being created in two different ways.

If you look at the concept "Concentration Risks, Types, No Concentration Percentage [Abstract]" and it's children what you see is a bunch of single items, not in a [Table]. If you look at the [Table] "Concentration Risk [Table]" what you see is a [Table] with only three Concepts (measure or primary item) and a bunch of [Axis]. What is the difference between the two? Well, there really is none other than the syntax used to articulate the information.

The reason the [Table] was probably used for "Concentration Risk [Table]" is that there are three Concepts for each concentration risk (note that there is only one for one which is just concepts and no table – the concept itself.

Although, there are other places in the taxonomy where [Table]s have only one concept within the set of [Line Items]. For example, see "Unusual Risk or Uncertainty [Table]" also in this Network, it has only one concept within the [Line Items].

12 Disclosure – 285000 – Interim Reporting

Interim Reporting includes quarterly financial data and year-end adjustments impacting fourth quarter. (click here to navigate to the taxonomy)

```
⊟ ⚙ 285000 - Disclosure - Interim Reporting
   ⊟ 🗎 Quarterly Financial Information [Text Block]
      ⊟ Ⓐ Quarterly Financial Data [Abstract]
         ⊞ Ⓐ Selected Quarterly Financial Information [Abstract]
         ⊞ 🗎 Quarterly Financial Information, Explanatory Disclosure
      ⊟ Ⓐ Year-End Adjustments, Effect of Fourth Quarter Events [Abstract]
         ─── 🗎 Year-End Adjustments, Effect of Fourth Quarter Events, Description
         ─── 🗎 Year-End Adjustments, Effect of Fourth Quarter Events, Amount
         ─── 🗎 Extraordinary Item, Fourth Quarter
         ─── 🗎 Unusual or Infrequent Item, Fourth Quarter
```

12.1 TRAP: *The selected quarterly financial information [Axis] does not match the [Axis] which are used on the statement of income, but seems like they should.*
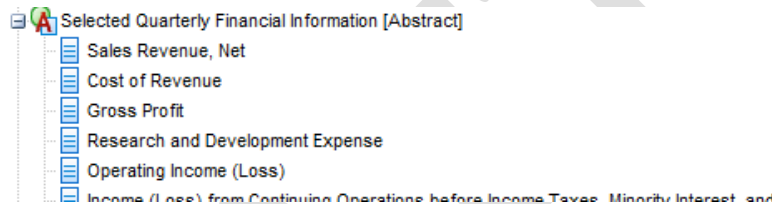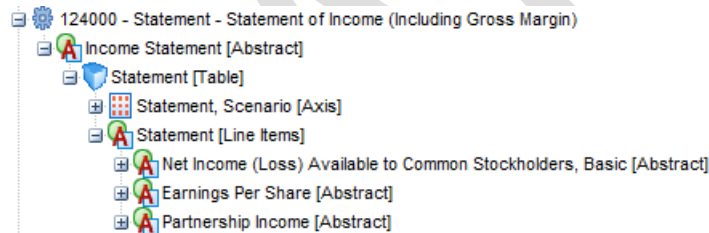
Consider this fragment of selected quarterly financial information:

```
⊟ Ⓐ Selected Quarterly Financial Information [Abstract]
   ─── 🗎 Sales Revenue, Net
   ─── 🗎 Cost of Revenue
   ─── 🗎 Gross Profit
   ─── 🗎 Research and Development Expense
   ─── 🗎 Operating Income (Loss)
   ─── 🗎 Income (Loss) from Continuing Operations before Income Taxes, Minority Interest, and
```

Now, take a look at the statement of income, a screen shot which is shown here:

```
⊟ ⚙ 124000 - Statement - Statement of Income (Including Gross Margin)
   ⊟ Ⓐ Income Statement [Abstract]
      ⊟ 🛡 Statement [Table]
         ⊞ ▦ Statement, Scenario [Axis]
         ⊟ Ⓐ Statement [Line Items]
            ⊞ Ⓐ Net Income (Loss) Available to Common Stockholders, Basic [Abstract]
            ⊞ Ⓐ Earnings Per Share [Abstract]
            ⊞ Ⓐ Partnership Income [Abstract]
```

The primary thing to notice is that the structure for selected quarterly financial information is not contained in a [Table], but the income statement is contained in a [Table]. If you look for the concept "Sales Revenue, Net" within the income statement, you will find it. So, the user reports the concept "Sales Revenue, Net" once within an instance documents, and XBRL does its magic and because of the Networks of Relations used, that concept is used in at least these two places. This same idea pertains to every concept within the selected quarterly financial information.

Well, the problem is that the income statement concept is within a [Table] (and therefore has a set of [Axis] associated with it), and the other relation is NOT within a [Table] and therefore has no [Axis] associated with it. If both relations were within a [Table] this is no problem because the magic of the default dimension, which basically creates a pivot point so the concept can be effectively be used in both [Table]s. But default dimensions do not work with the absence of a table.

The point is that this situation is "undefined" in XBRL. Different software vendors handling this situation are likely to handle it in different ways, since how it should be handled is not defined. Further, XBRL Formulas requires a user to declare a formula as being dimensional or non-dimensional. This case is simply not covered, basically mixing dimensional and non-dimensional information.

12.2 TIP: *Year-End adjustments should probably be a [Table].*

Consider the following screenshot: (click here to navigate to the taxonomy)
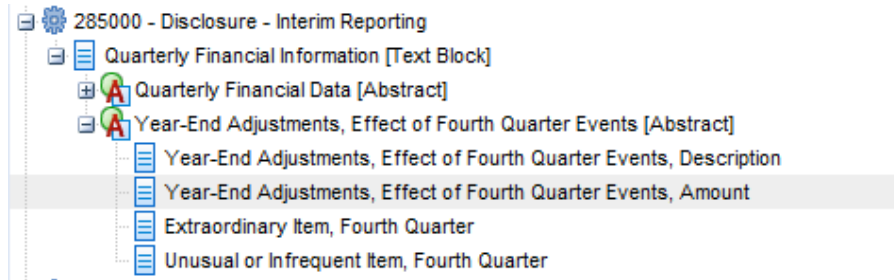
The concept "Year-End Adjustments, Effect of Fourth Quarter Events, Description" and the one below it "Year-End Adjustments, Effect of Fourth Quarter Events, Amount" appear to go together to report significant year-end adjustments. Clearly there could be disclosure of more than one adjustment, which in this instance would necessitate additional string and monetary elements to tag each adjustment. Hence, it would be more optimal to model these two items as a [Table].

The last two concepts of this set of siblings do not appear to go together with the adjustment description and amount.


13 Disclosure – 290000 – Accounting Policies

The Accounting Policies Network contains disclosures relating to significant accounting policies and general information about the organization, consolidation, and presentation of an entity's financial statement. (click here to navigate to the taxonomy)
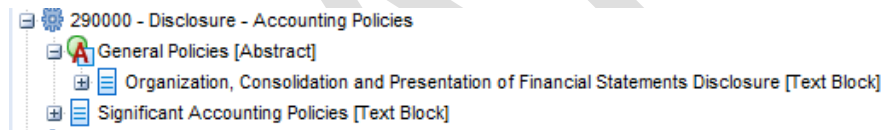
Of the approximately 363 concepts which participate in the relations within this Network, the vast majority are concepts where some textual type disclosure will be made, therefore the vast majority of the modeling patterns within this section are [Hierarchy]s. There are a few [Tables], all quite straight forward containing a small [Set] typically. There are a handful of numeric type concepts, but none are involved in [Calculation]s.

13.1 TIP: Note that there is no single root concept for the Accounting Policies Network, therefore the two root concepts may not appear in the same order.

Note the following screen shot which collapses the root nodes of the Network:
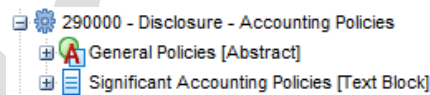
If you compare this to most Networks, you will see that there are two root nodes in this Network. Most Networks have only one root node. For example, here is a screen shot of of the "Cash and Cash Equivalents" Network. The starting point of the Network is the top most label with the icon which looks like a gear. That is NOT a concept. That is the beginning of a Network. There is a significant difference between the two.
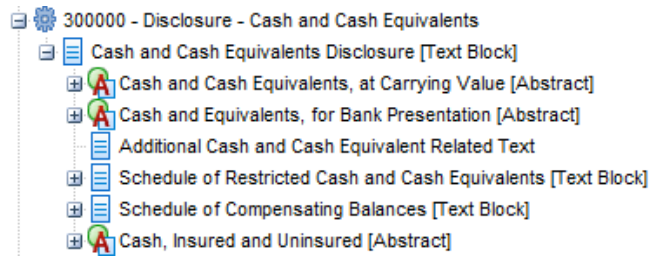
Just to be clear of what we are discussing here, this is another screen shot with the tree collapsed, showing only the Network (with the gear icon) and the root concept (the icon which looks like a piece of paper):
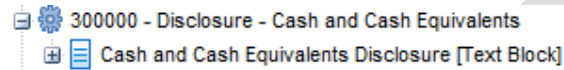
Notice the single root concept which is "Cash and Cash Equivalents Disclosure [Text Block]". Notice how all the other children hang off of that single node in the first screen shot. This allows ordering of the children concepts by a software application.

Contrast the one concept within the "Cash and Cash Equivalents" Network with the two concepts within the "Accounting Policies" Network.

Having two root concepts within a Network causes a situation which readers of the taxonomy need to be aware of. There is no way to express the order of root concepts in XBRL. Because there is no way to express order, different software applications could put the two root nodes in different orders. If there is only one root concept you will never have this issue. But when you have more than one, then ordering becomes an issue. For example in the case above, "Significant Accounting Policies [Text Block]" could be first and "General Policies [Abstract]" would be second. Now this may not sound like that big of a deal but be aware of two things. First, the concept "Significant Accounting Policies [Text Block]" has 314 child concepts. So when you start expanding the tree or when you print out the tree of concepts, the separation could be more than one concept. Secondly, here we have only two root concepts. But what if you had 20? Also, when rendering tools are using the taxonomy to help determine how to render things, consumers of the information could get things in a different order than you would like.

Because it is impossible to consistently order multiple root concepts, it is better to avoid multiple root concepts when you can when creating extension taxonomies. Here, for example, the concept "Accounting Policies [Abstract]" could be added, the two concepts be placed as children of that concept in the order that you desire and two things happen. First you only have one root concept so you avoid the problem of multiple root concepts altogether. Second, you will always have exactly the same ordering in every different software application.

13.2 TRICK: Avoid creating extension taxonomy Networks with multiple root concepts.

First, note the discussion in the Tip above. It is better to avoid the situation of multiple root concepts within Networks by always creating one root concept and putting the children in the order you desire when creating extension taxonomies.

Also, you can order the multiple root concepts, such as in the example above, by creating that root element in your extension taxonomy and simply connecting the multiple root concepts in the order you desire within your extension. That way, consumers of the information will get a consistent ordering, no matter which software tool they use.

14 Disclosure – 300000 – Cash and Cash Equivalents

The Cash and Cash Equivalents Network contains disclosures relating to cash and cash equivalents, restricted cash, compensating balances and such. (click here to navigate to the taxonomy)

> 300000 - Disclosure - Cash and Cash Equivalents
> Cash and Cash Equivalents Disclosure [Text Block]
> Cash and Cash Equivalents, at Carrying Value [Abstract]
> Cash and Equivalents, for Bank Presentation [Abstract]
> Additional Cash and Cash Equivalent Related Text
> Schedule of Restricted Cash and Cash Equivalents [Text Block]
> Schedule of Compensating Balances [Text Block]
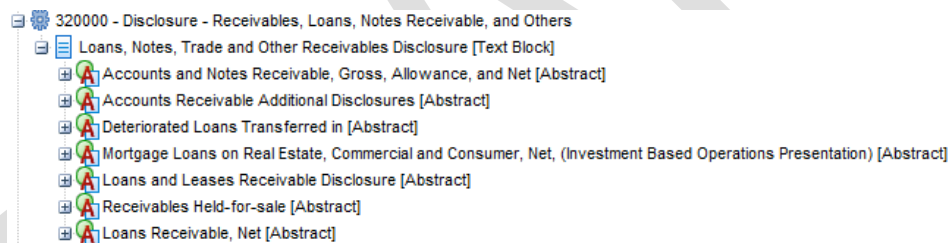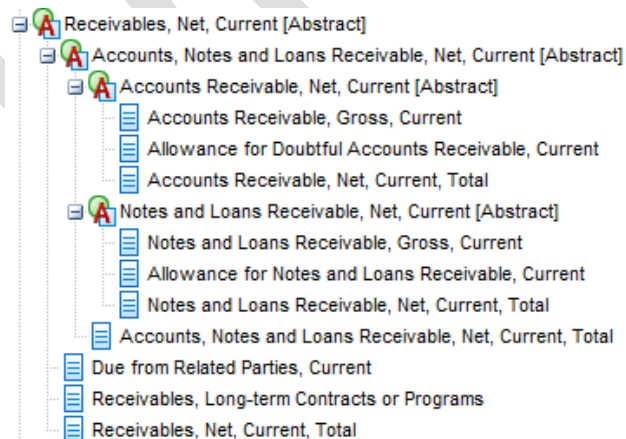> Cash, Insured and Uninsured [Abstract]

This Network is straightforward. Several of these disclosures appear to relate to only financial institutions.

15 Disclosure – 320000 – Receivables, Loans, Notes Receivable, and Others

The Receivables, Loans, Notes Receivable, and Others Network contains disclosures relating to what amounts to all receivables. This includes accounts and notes receivable, deteriorated loans, mortgage loans, loans and leases receivable, and receivables held-for-sale. This Network contains [Hierarchy]s, [Calculation]s, [Roll Forward]s, and [Table]s. Most things are quite straight forward. (click here to navigate to the taxonomy)

> 320000 - Disclosure - Receivables, Loans, Notes Receivable, and Others
> Loans, Notes, Trade and Other Receivables Disclosure [Text Block]
> Accounts and Notes Receivable, Gross, Allowance, and Net [Abstract]
> Accounts Receivable Additional Disclosures [Abstract]
> Deteriorated Loans Transferred in [Abstract]
> Mortgage Loans on Real Estate, Commercial and Consumer, Net, (Investment Based Operations Presentation) [Abstract]
> Loans and Leases Receivable Disclosure [Abstract]
> Receivables Held-for-sale [Abstract]
> Loans Receivable, Net [Abstract]

The line items from the balance sheet into which the disclosures would be summarized are the following:

> Receivables, Net, Current [Abstract]
> Accounts, Notes and Loans Receivable, Net, Current [Abstract]
> Accounts Receivable, Net, Current [Abstract]
> Accounts Receivable, Gross, Current
> Allowance for Doubtful Accounts Receivable, Current
> Accounts Receivable, Net, Current, Total
> Notes and Loans Receivable, Net, Current [Abstract]
> Notes and Loans Receivable, Gross, Current
> Allowance for Notes and Loans Receivable, Current
> Notes and Loans Receivable, Net, Current, Total
> Accounts, Notes and Loans Receivable, Net, Current, Total
> Due from Related Parties, Current
> Receivables, Long-term Contracts or Programs
> Receivables, Net, Current, Total

Note that the line items on the balance sheet are the same concepts as what is used in the [Table] to breakdown the details of the balance sheet line item.

15.1 TRAP: Don't mix up current, noncurrent, and unclassified; this is not consistent with how payables are done.

Consider the following screen shot which breaks down receivables into their current and noncurrent portions (if a classified balance sheet is used) as compared to simply using unclassified if an unclassified balance sheet is used.

Now, compare this to what amounts to basically the same thing in payables. Current and unclassified is combined.
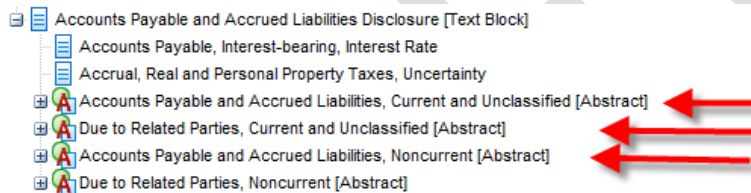

For payables, it seems that current should be used if reporting the current portion or if you are using an unclassified balance sheet. Whereas if reporting noncurrent using a classified balance sheet, the noncurrent concepts are to be used.

It seems that receivables and payables should be consistent. Payables appear to be the only location this is done.

15.2 TIP: Think of the Schedule of Accounts and Notes Receivable [Table] as three separate [Tables] which have been combined.

The "Schedule of Accounts and Notes Receivable [Table]" seems more complicated than it really is. Take a look at this screen shot:
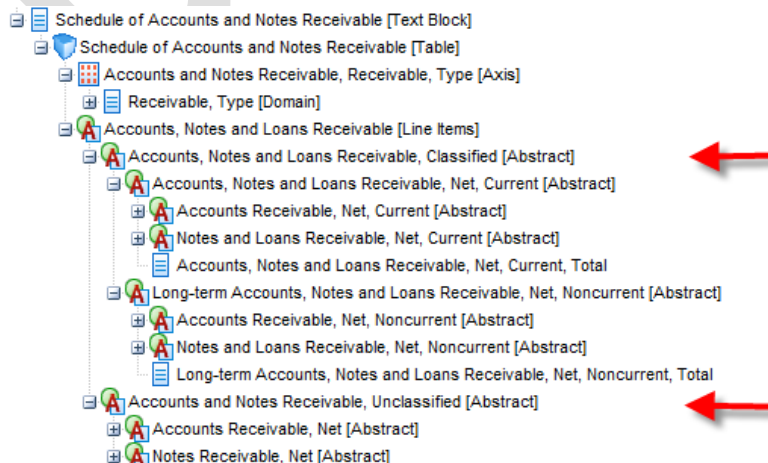
Note that the line items on the balance sheet are the same concepts as what is used in the [Table] to breakdown the details of the balance sheet line item.

When you look at this table realize that a preparer would use only the "Classified" or the "Unclassified" sections; both would not be used together. That allows you to mentally throw one of those two trees out.

Then, all that is going on is that your "Accounts and Notes Receivable, Receivable, Type [Axis]" is used to put numbers for the receivable type into the correct "bucket" of Accounts or Notes and Loans Receivable of the Current and Noncurrent varieties.

16 Disclosure – 330000 – Investments, Debt and Equity Securities

The Investments, Debt and Equity Securities Network contains disclosures relating debt and equity trading securities, available-for-sale securities, and held-to-maturity securities. It also contains disclosures relating to loans acquired which are accounted for as debt securities, gains and losses on such investments, and investment income. (click here to navigate to the taxonomy)

The majority of the relations (a total of 355 in this network) are used for providing information for trading, available-for-sale, and held-to maturity securities. These contain 88, 109, and 92 relations, respectively. All three of these structures articulate information to be reported in the form of a [Table].

16.1 TRAP: No [Text Block] is provided for "Loans Acquired, Accounted for as Debt Securities, Disclosures".

Consider the following screen shot:

Note that [Text Block]s are provided for the entire Network and for every major breakdown, except for "Loans Acquired, Accounted for as Debt Securities, Disclosure [Abstract]". This makes it impossible to provide the information for loans acquired in the form of a [Text Block].

Further, if you drill down an additional level, still no [Text Block]s for the sub sections.
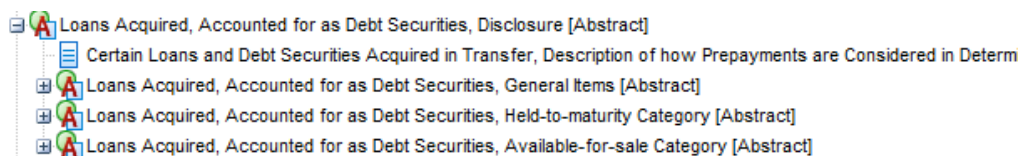
We believe that the way around this is to create a [Text Block] within the extension taxonomy created by a preparer. This will result in the problem of not being able to compare this information across companies (i.e., because each preparer will be creating their own [Text Block] concept and they will all be different concepts and no way for a computer application to know each preparer has created their own concept). However, there really is no other way around this short of correcting this in the UGT.

16.2 TIP: The only structure in this Network which is not a [Table] is "Loans Acquired, Accounted for as Debt Securities, Disclosure [Abstract]".

Note that the only structure within this taxonomy section which is not a [Table] is "Loans Acquired, Accounted for as Debt Securities, Disclosure [Abstract]". To see this, you simply need to look at the level of relations just below the summary level above. Consider this screen shot:

16.3 TIP: Long labels are hard to use within a software application.

Creating the most usable labels within a taxonomy is an art. There are a lot of different things which need to be balanced including the labels of other concepts near the concept you are creating the label for, the length of the label, the meaning communicated, the ability to uniquely and correctly identify a concept without having to go to the documentation or references, etc.

Consider the following screen shot:
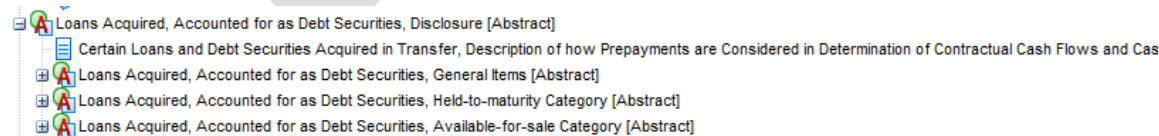
Notice the second concept which has the label: "Certain Loans and Debt Securities Acquired in Transfer, Description of how Prepayments are Considered in Determination of Contractual Cash Flows and Cash Flows Expected to be Collected".

This label is so long that it is cut off in the screen shot. Imagine the considerations when having to use such a label within a software application.

Would it be the case that the following label would be sufficient: "Certain Loans and Debt Securities Acquired in Transfer, Description"?

What does adding the additional, what amounts to documentation really, to the label itself? There are no other labels with that shorter label or even similar to that shorter label really.

Just considering one dynamic or not balancing all the dynamics appropriately will yield labels which are harder to use than they need to be, not easier.

16.4 TRAP: The concept "Gain (Loss) on Investments [Abstract]" has a cycle problem.

[CT: I am not sure what you mean by a 'cycle' problem. From what I seen in the examples below, it appears to be correct. I would expect to see "Gain (Loss) on Investments [Abstract]" in all the places of the taxonomy that you have pointed out.]

The concept "Gain (Loss) on Investments [Abstract]" is used to denote three different types of structures causing what is known as a "cycle" type of an issue. Here we see the concept being used within the disclosure for "Investments, Debt and Equity Securities" to denote a hierarchy (i.e., note that :
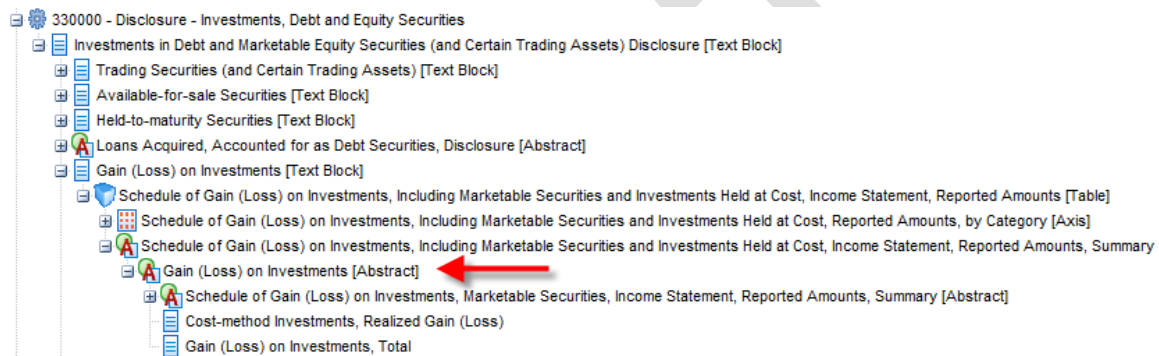
Here we see the concept being used for something totally different within the "Income Statement":
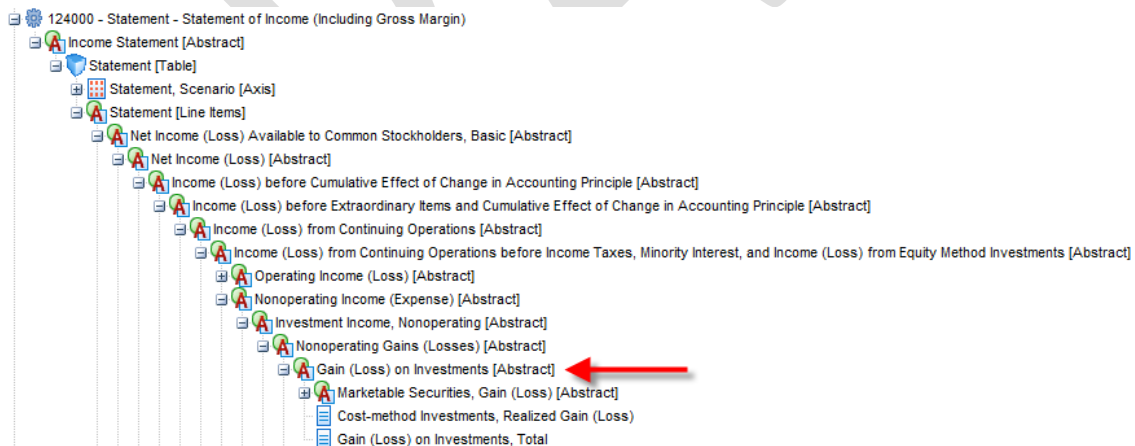
Here in an income statement alternative we see it used consistently with the other income statement above:
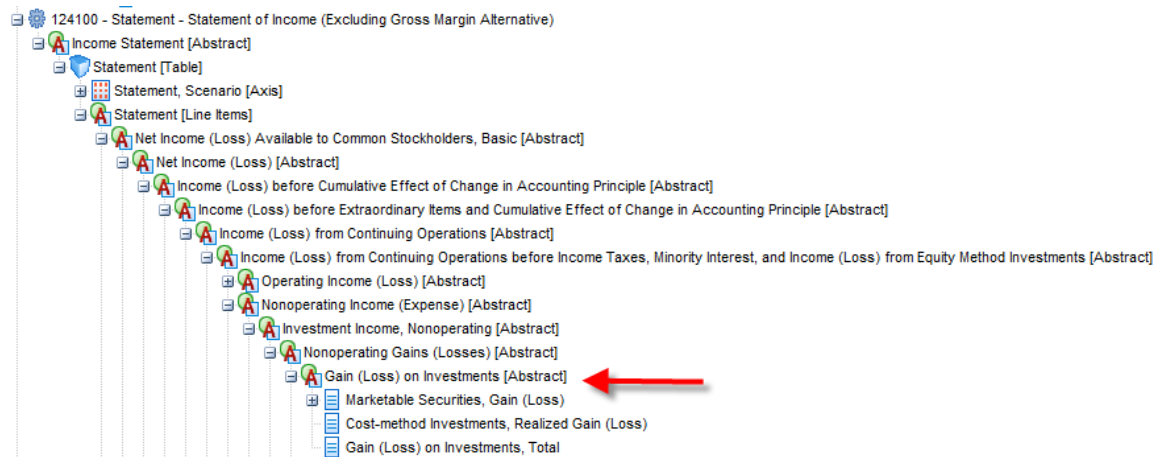
Here we see the concept being used in the cash flow statement:
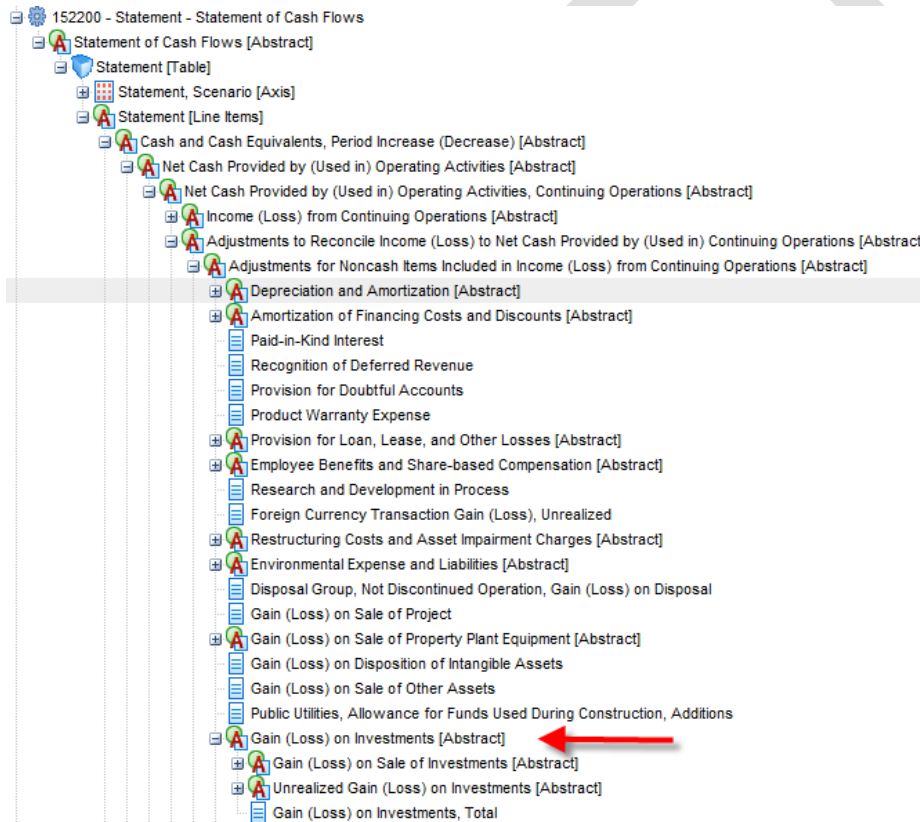
16.5 TRAP: The structure for "Gain (Loss) on Investments [Abstract]" is misaligned with its calculation.

Consider the following screen shot of the "Gain (Loss) on Investments [Text Block]" portion of the disclosure:
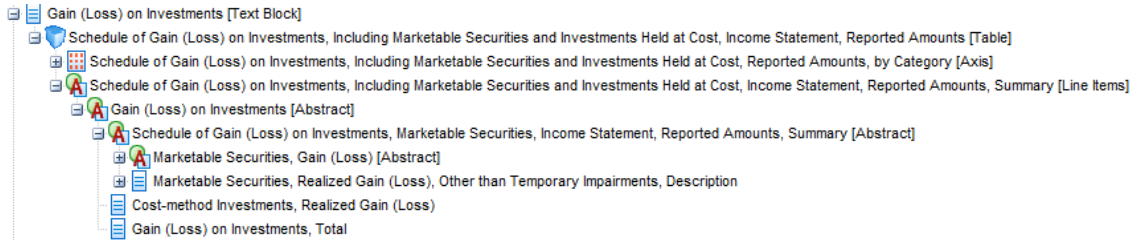
It appears to be the case that the concept "Schedule of Gain (Loss) on Investments, Marketable Securities, Income Statement, Reported Amounts, Summary [Abstract]" should not be where it is.

[CT: Why? I am not sure I see this point. Where should it be then?]

Further, the string concept "Marketable Securities, Realized Gain (Loss), Other than Temporary Impairments, Description" perhaps should really not be within the calculation, but rather just after the calculation.

The calculation relations provide a clue as to how this probably should look. Also, this would explain the part of the cycle issue pointed out above (although it still does not explain why the cash flow structure is different).
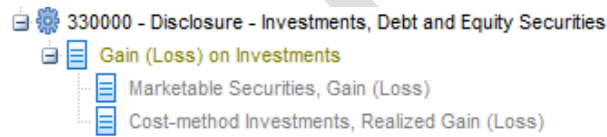

If this section needs to be used, the best thing to do is to prohibit this structure within your company extension and restructure this consistent with the income statement.

17 Disclosure – 333000 – Investments, Equity Method and Joint Ventures

The Investments, Equity Method and Joint Ventures Network is basically one big [Table] which articulates information relating to each equity method investment of a reporting entity. (click here to navigate to the taxonomy)

Although no specific mention of joint ventures is reflected in the concept labels, it is implicit that corporate joint ventures are included as one form of entity to which the equity method

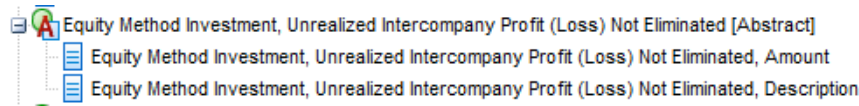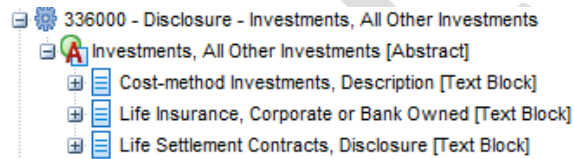would apply, if appropriate to do so. We note that the taxonomy in fact provides explicit concepts for corporate joint ventures in other networks, and covers unincorporated joint ventures through variable interest entity concepts.

[CSH: I cannot tell if this should be a [Set] (i.e. repeats because there can be many transactions which have to be individually reported). It seems that it is NOT a [Set] and all transactions which result in the profit or loss are aggregated. True or False? It appears that this should be a [Set], and therefore in a separate [Table] as nested tables are not allowed.]

Equity Method Investment, Unrealized Intercompany Profit (Loss) Not Eliminated [Abstract]
    Equity Method Investment, Unrealized Intercompany Profit (Loss) Not Eliminated, Amount
    Equity Method Investment, Unrealized Intercompany Profit (Loss) Not Eliminated, Description

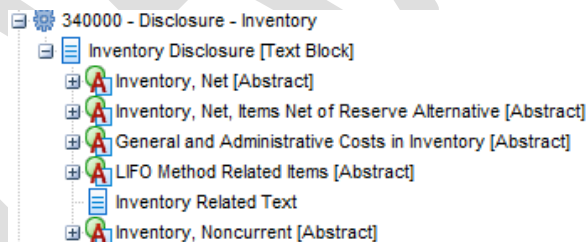# 18 Disclosure – 336000 – Investments, All Other Investments

The Investments, All Others Network contains cost-method investments and life insurance related disclosures. (click here to navigate to the taxonomy)

336000 - Disclosure - Investments, All Other Investments
    Investments, All Other Investments [Abstract]
        Cost-method Investments, Description [Text Block]
        Life Insurance, Corporate or Bank Owned [Text Block]
        Life Settlement Contracts, Disclosure [Text Block]

The Network contains several [Hierarchy]s, [Calculation]s, and [Table]s which contain data [Set]s.

19 Disclosure – 340000 – Inventory

Includes inventory related disclosures. (click here to navigate to the taxonomy)

340000 - Disclosure - Inventory
    Inventory Disclosure [Text Block]
        Inventory, Net [Abstract]
        Inventory, Net, Items Net of Reserve Alternative [Abstract]
        General and Administrative Costs in Inventory [Abstract]
        LIFO Method Related Items [Abstract]
        Inventory Related Text
        Inventory, Noncurrent [Abstract]

Most concepts are calculations with a few text type disclosures. Generally, this section is rather straightforward. As there are no tables within this Network, all information is assumed to relate to the consolidated entity.

20 Disclosure – 350000 – Deferred Costs, Capitalized, Prepaid, and Other Assets

Includes a number of [Hierarchy]s and [Calculations] relating to all other assets such as deferred costs, prepaid expenses, credit card origination costs, deposits, assets held in trust, and other assets. (click here to navigate to the taxonomy)

```
□ ⚙ 350000 - Disclosure - Deferred Costs, Capitalized, Prepaid, and Other Assets
    □ 目 Deferred Costs, Capitalized, Prepaid, and Other Assets Disclosure [Text Block]
        ⊞ Ⓐ Deferred Costs [Abstract]
        ⊞ Ⓐ Deferred Costs, Leasing, Net [Abstract]
        ⊞ Ⓐ Prepaid Expense, Current [Abstract]
        ⊞ Ⓐ Credit Card Origination Costs [Abstract]
        ⊞ Ⓐ Deposit Assets Disclosure [Abstract]
        ⊞ Ⓐ Other Assets, Noncurrent Disclosure [Abstract]
        ⊞ Ⓐ Other Assets, Unclassified [Abstract]
        ⊞ Ⓐ Other Assets, Significant Additions or Deletions [Abstract]
        ⊞ Ⓐ Preproduction Costs Related to Long-term Supply Arrangements [Abstract]
        ⊞ Ⓐ Assets Held-in-trust [Abstract]
```

Most concepts in this section are calculations and textual disclosures. This Network is rather straightforward. As there are no tables within this Network, all information is assumed to related to the consolidated entity.

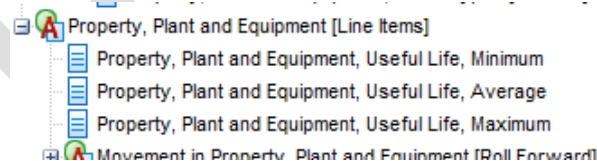# 21 Disclosure – 360000 – Property, Plant, and Equipment

The Property, Plant, and Equipment Network contains disclosures relating to the details of PPE; significant acquisitions and disposals of PPE; major planned maintenance; impairments of PPE; PPE which is held-for-sale, and other miscellaneous PPE related disclosures. (click here to navigate to the taxonomy)

```
□ ⚙ 360000 - Disclosure - Property, Plant, and Equipment
    □ 目 Property, Plant and Equipment Disclosure [Text Block]
        ⊞ Ⓐ Property, Plant and Equipment [Abstract]
        ⊞ Ⓐ Property, Plant and Equipment, Net [Abstract]
        ⊞ Ⓐ Property, Plant and Equipment, Schedule of Significant Acquisitions and Disposals [Abstract]
        ⊞ Ⓐ Property Plant and Equipment Income Statement Disclosures [Abstract]
        ⊞ Ⓐ Property, Plant and Equipment Planned Major Maintenance [Abstract]
        ⊞ Ⓐ Property, Plant and Equipment Impairment or Disposal [Abstract]
        ⊞ Ⓐ Property, Plant and Equipment Assets Held-for-sale Disclosure [Abstract]
          目 Property, Plant, and Equipment, Additional Disclosures
```

PPE disclosures have pretty much a little of everything. Most relations are straight forward. The ones which are not are covered below.

21.1 TIP: Be aware that there are a few PPE policies contained within the disclosures.

There are a few policies buried within the disclosures. See the following:

```
    □ Ⓐ Property, Plant and Equipment [Line Items]
        目 Property, Plant and Equipment, Useful Life, Minimum
        目 Property, Plant and Equipment, Useful Life, Average
        目 Property, Plant and Equipment, Useful Life, Maximum
    ⊞ Ⓐ Movement in Property, Plant and Equipment [Roll Forward]
```

Putting these policies here is actually a very good thing. The reason is that the UGT correctly models all the concepts within one set of components which relates to a class of property, plant, and equipment. These could have been put within the policies by using the same [Table] [Axis]s, [Domain]s, and [Members] and only including the policies of PPE in that table. In that way, users could actually: (a) use the rendering as modeled within the UGT; (b) recast the policies and disclosures separately; or (c) created other ad hoc views. The key would be to be sure that the same [Axis]s, [Domain]s, and [Member]s are provided so that a software application can create these based on easy-to-create taxonomy extensions.

21.2 TRICK: How to recast the [Roll Forward] of PPE to use "Net" rather than "Gross".

The UGT currently expresses the [Roll Forward] of PPE to reconcile the gross PPE balances. You can recast this to use the net PPE balances using the approach we will describe below. But first, let's take a look at the [Roll Forward] as it exists. And actually, there are two [Roll Forward]s:
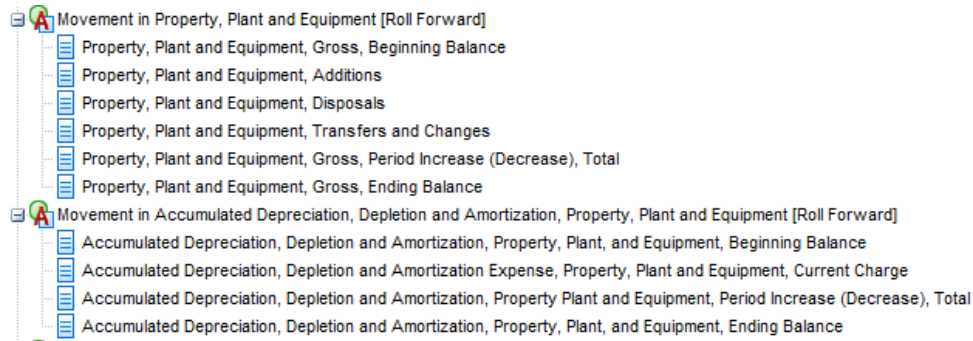
The first is a reconciliation of the beginning gross balance to the ending gross balance. The second is the reconciliation of accumulated depreciation.

But what if you want to take the approach to show the reconciliation of the net balance? All you need to do is the following:

1. Create a new [Roll Forward] concept within a different Network (so the calculations do not collide). For example, you could call this "Movement in Property, Plant and Equipment, Net [Roll Forward]"

2. Rather than use the "Gross" concept, use the "Net" concept for PPE.

3. Add the other changes concepts which exist within the existing [Roll Forward] for additions, disposals, and transfers and changes, and the total period increase (decrease).

4. Add the "Accumulated Depreciation, Depletion and Amortization Expense, Property, Plant and Equipment, Current Charge" concept to your new [Roll Forward] which uses the net concept.

5. Wire the calculations relations, or have your application auto-generate the calculations.

6. Wire the definition relations, or have your application auto-generate those also.

It is as simple as that. This is one of the strengths of interactive data, to express the views you desire, in the format you desire to see them. All of these concepts exist within the PPE types [Table].

21.3 TRAP: Detailed classes of property, plant, and equipment are provided for in two ways.

As with Intangible Assets; Property, Plant, and Equipment classes can be expressed using either concepts (i.e. on the balance sheet) or [Member]s of a [Table] (i.e. within the disclosures). Here is a screen shot of the classes within the balance sheet:
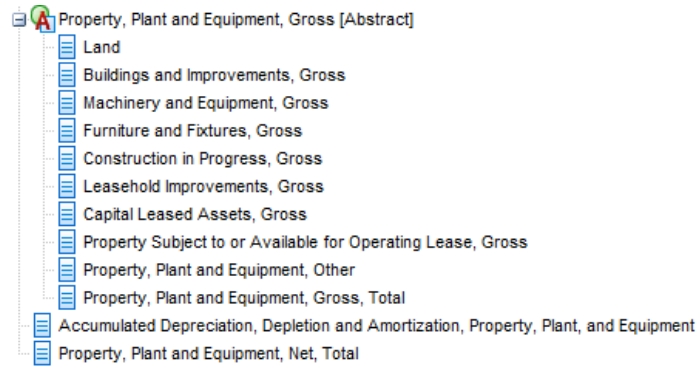
Here is a screen shot of the classes within the disclosures:
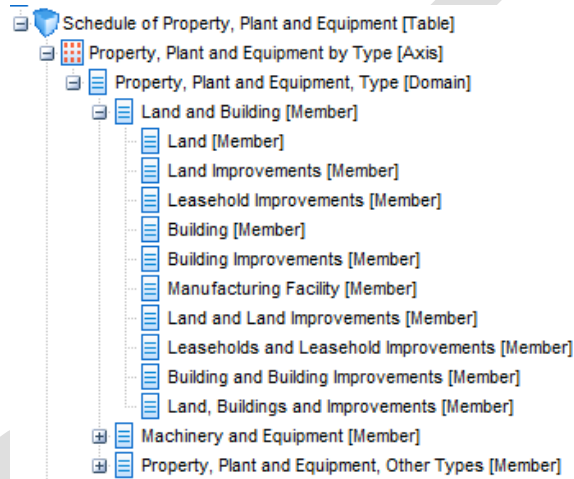
Note that the two breakdowns do not match. The disclosures provides a significantly more detailed list. (Note that the machinery and equipment and other types are not expanded and contain additional members.)

[CT: I see your point that the disclosure needs to be consistent and be able to be tied to the balance sheet, from a technical perspective. However, from a GAAP perspective, it is possible for the disclosure to provide a more detailed listing of the PPE and the balance sheet does not. Land Improvements may not, in and of itself, be material, and thus would not be separately disclosed in the balance sheet.]

For a more detailed discussion relating to this topic, please see the intangible assets Network TRAP which is very similar to this section of PPE.

21.4 TRAP: Balance sheet line items tie to balance sheet, but income statement and cash flows statement line items do not.

Beware that the income statement and cash flow statement line items do not tie between the income statement and cash flow statement; different concepts are used.
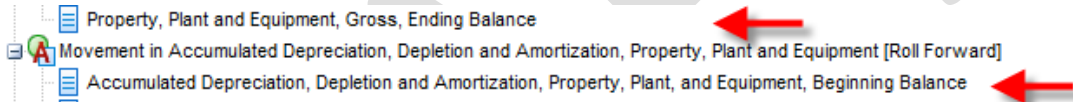
The balance sheet does tie correctly. See the balance sheet screen shot:
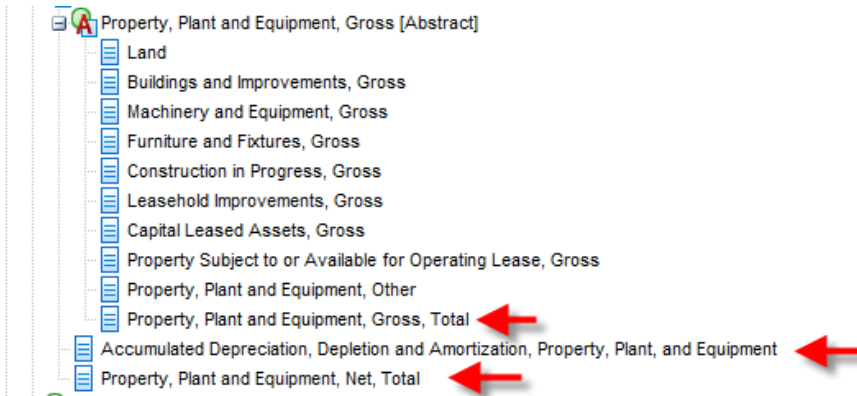
And here are the same concepts within the disclosures. First, in the gross, accumulated depreciation, and net calculation:
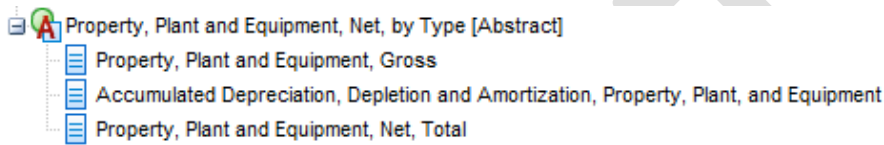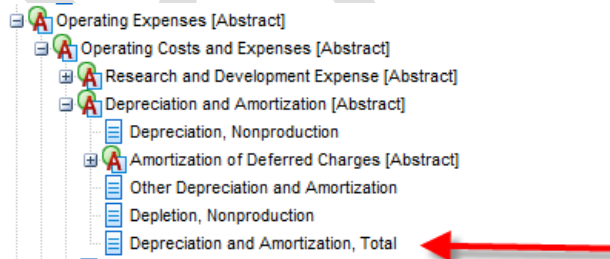

And here at the end of the [Roll Forward] of the gross PPE balance and the [Roll Forward] of the Accumulated Depreciation:
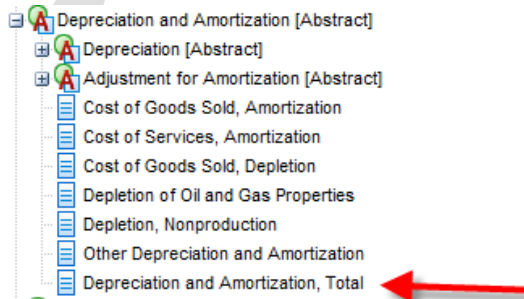

If you check the information for the concepts, you can see that they are in fact the same concepts.
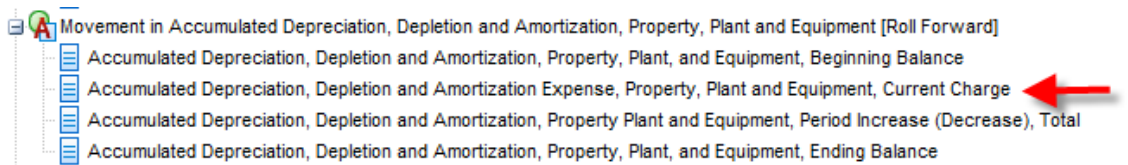
But this is not the case for the income statement and cash flow statement. Here is the income statement:

And here is the cash flow statement:

Note that these are the same concept. But within the PPE table, a different concept is used:

[CSH: Christine, am I seeing this correctly? Should these numbers agree?]

[CT: No – the depreciation and amortization in the cash flow statement does not have to agree with the depreciation and amortization of PPE. This is because the depreciation and amortization in the cash flow statement is ALL the noncash adjustment to net income. This would include depreciation of PPE as well as depreciation of COGS etc. I would delete this whole section.]

To work around this, use the concepts which exist but just realize that you are going to have to manually make sure the numbers agree and that calculations add up. An XBRL Formula can help you check to be sure these concepts are properly synced.

21.5 TRAP: The Schedule of Significant Acquisitions and Disposals lumps acquisitions and disposals together, making them hard to separate.

Acquisitions and disposals are lumped together in one [Table] with no real good way to separate acquisitions and disposals. See the following screenshot:
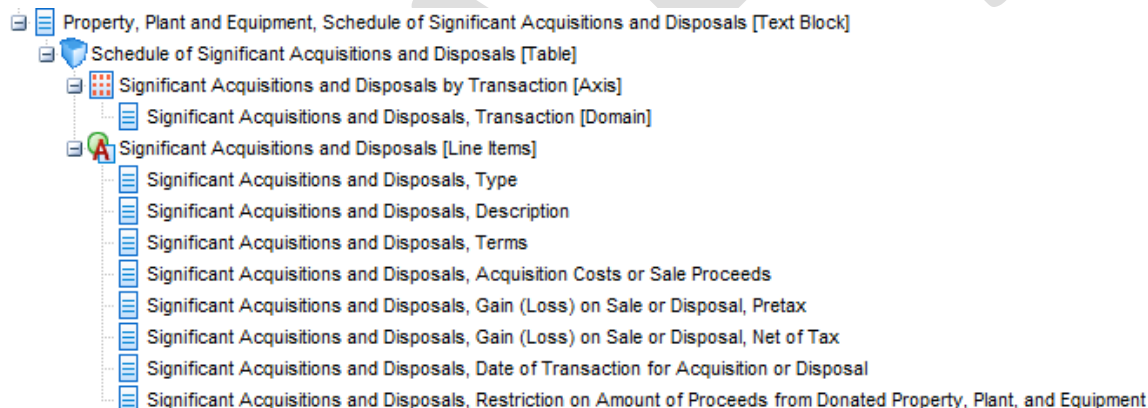

In this schedule, the concept which helps users distinguish whether something is an acquisition or a disposal is the "Significant Acquisitions and Disposals, Type". However, the concept accepts any string as a value and the documentation states, "A single word or group of words that defines whether a transaction is an acquisition or a disposal". This leaves it open to users how to distinguish between the two, which means there is a high probability that different preparers will use different terms.

There are potentially two better ways to handle this. The first is that the concept "Significant Acquisitions and Disposals, Type" could be made a more constrained data type, for example an enumeration with the values of "Disposal" and "Acquisition". A second way, which is probably even better is to break the single [Table] into two [Table]s; one for acquisitions and the other for disposals. This approach seems better because things like "Gain (Loss) on Sale…" only relate to disposals, never to acquisitions.

22 Disclosure – 370000 – Intangible Assets, Goodwill and Other

The Intangible Assets, Goodwill, and Other Network contains disclosures relating to intangible assets, goodwill, and research and development acquired through business combination. (click here to navigate to the taxonomy)
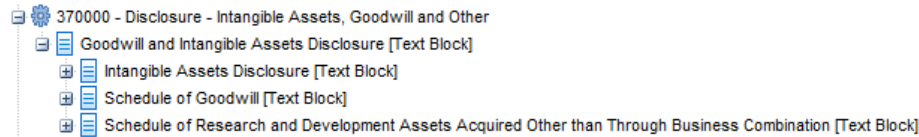

The Network contains a variety of modeling patterns and a fair number of [Table]s considering the size of the Network, which is about 148 relations.

22.1 TRAP: Organization does matter; there are several organizational issues which make this section potentially harder to read.

There are several organizational type issues which are worth pointing out. This type of organizational issue is not pointed out in other areas of the UGT as they are quite numerous. We will point these out here and they should be kept in the back of your mind as you read the taxonomy.

The first point can be made by looking at the first level of relations in this section and the labels used to describe the sections. Consider this screen shot:
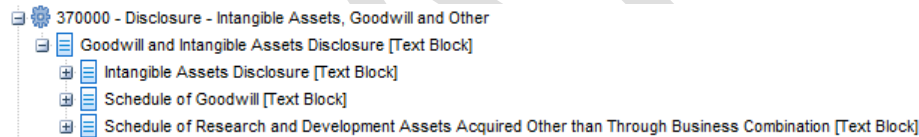
Note that the Network has the label "Disclosure – Intangible Assets, Goodwill and Other". The root concept, Goodwill and Intangible Assets Disclosure [Text Block] drops the term "Other" and reverses the order of Goodwill and Intangible Assets. There seems to be no reason why the two could not match better than they do.

Next, look at the second level of concepts. There is one broad category and two more detailed categories of relations. Finally, there is nothing in the Network description that says anything about acquired research and development, unless the term "Other" is intended to communicate that section. Because there is only one other item, perhaps "Research and Development Acquired" could have been used rather than the term "Other".

Consider this reorganized version to better explain the notion of how this section could be organized:

- 370000 – Disclosure – Goodwill, Intangible Assets, and Acquired Research and Development
  - o Goodwill Disclosures [Text Block]
  - o Intangible Assets Disclosures [Text Block]
  - o Acquired Research and Development [Text Block]

In the reorganized version above, there are several things going on. The first is that the flow of the labels is what one would better expect. Secondly, the appropriate [Text Block]s are provided for each section of the larger disclosure.

The next thing worth understanding
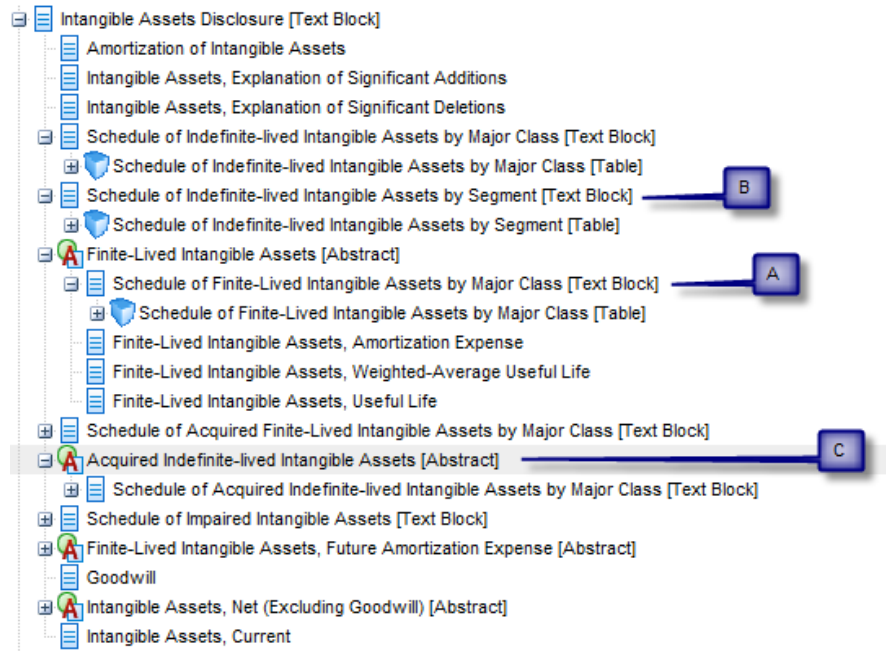
Note the following about the organization above:

1. See concept above labeled "Finite-Lived Intangible Assets [Abstract]". It seems to indicate a broad category. Yet, if that broad category exists, you would expect another broad category "Indefinite-lived Intangible Assets [Abstract]" (Note the different capitalization of "lived" and Lived"). Further, it would make sense and make the large number of concepts easier to read if everything which related to Finite-Lived Intangible Assets were contained within the broad category. Note the two line items "Schedule of Acquired Finite-Lived Intangible Assets by Major Class [Text Block]" and "Finite-Lived Intangible Assets, Future Amortization Expense [Abstract] which are not contained in the broad category of Finite-Lived Intangible Assets [Abstract].

2. Note the seemingly random use of [Text Block] and [Abstract]. It is hard to explain when something should be a [Text Block] and when something should be [Abstract] based on this screen shot above.

3. Note "A" and "B" above which organize disclosures of the indefinite-lived and finite-lived intangible assets by major class; one of which is organized under the broad category, the other which is not.

4. Note "C" above which places a similar schedule under an abstract concept that is grouping it; however, there is only one child concept.

5. Starting from the top of the relation tree, note how the topic jumps around from relating to all intangible assets (the amortization and significant additions), to indefinite-lived intangible assets not within a broad category, to finite-lived which are organized in a broad category, something else which relates to finite-lived not contained in the broad category, back to indefinite-lived, back to all intangible assets (the impairments), again back to finite-lived (future amortization expense), then others relating to overall intangible assets.

6. Note the use of "Amortization" in the first child and at the beginning of the label, but amortization expense elsewhere and at the end of the label.

Well, hopefully you will get the point. Consider if this section of the taxonomy were organized something to the effect of the following:

- 370000 – Disclosure – Goodwill, Intangible Assets, and Acquired Research and Development
    - Goodwill Disclosures [Text Block]

- Goodwill
- Schedule of Goodwill [Text Block]
  o Intangible Assets Disclosures [Text Block]
    - Intangible Assets, General [Text Block]
      - Intangible Assets, Net (Excluding Goodwill) [Calculation]
      - Intangible Assets, Amortization
      - Intangible Assets, Explanation of Significant Additions
      - Intangible Assets, Explanation of Significant Deletions
      - Intangible Assets, Current
      - Schedule of Impaired Intangible Assets [Text Block]
    - Indefinite-lived Intangible Assets [Text Block]
      - Schedule of Indefinite-lived Intangible Assets, by Major Class [Text Block]
      - Schedule of Indefinite-lived Intangible Assets, by Segment [Text Block]
      - Schedule of Acquired Indefinite-lived Intangible Assets [Text Block]
    - Finite-lived Intangible Assets [Text Block]
      - Finite-lived Intangible Assets, Amortization
      - Finite-lived Intangible Assets, Weighted Average Useful Life
      - Finite-lived Intangible Assets, Useful Life
      - Finite-lived Intangible Assets, Future Amortization [Calculation]
      - Schedule of Finite-lived Intangible Assets, by Major Class [Text Block]
  o Acquired Research and Development [Text Block]
    - Schedule of Research and Development Acquired Through Business Combinations [Text Block]

Again, the above is just one example of a possible organization. Hopefully this example will help users see that organization does make a difference. Again, we point out that this section is provided as an example. Consider these points when looking at other areas of the UGT. Organization should help the user of the taxonomy, not detract from its use. When the organization reaches a certain point it will begin appearing elegant, helping the user make sense of the thousands and thousands of concepts and relations they must deal with when using the taxonomy.

22.2 TRAP: Having segment [Axis] for each different [Table] using a segment makes the process of putting segment information together a manual process, rather than automated.
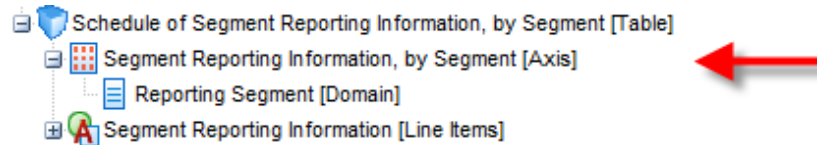
Goodwill uses its own segment axis, see the screen shot below:
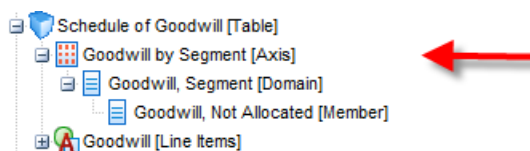
Indefinite-lived Intangible assets has its own segment axis, see that screen shot here:
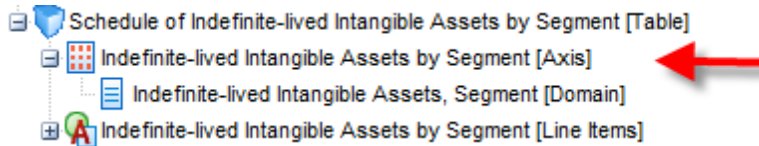
And in the Schedule of Segment Reporting Information, that schedule uses yet a different segment breakdown, see that here:

There is no way for a computer to understand that these axis are three ways of expressing exactly the same thing and understand that a user may want to see all information relating to the business segment breakdown of a reporting presented together. How would a computer understand that they are the same thing, unless a human were to somehow map the these three things together indicating that they are, in fact, three different ways of expressing the same thing.

We can see no reason that one "Business Segments [Axis]" be used in all three places here to indicate the segment breakdown within all three of these tables. If this were done, then a business user could easily pull together all of this segment information for all areas of an interactive data report which has breakdowns by segment. This would include other areas which provide segment breakdowns but not shown here.

Why the difference; why can this be automated if they are the same? Well, because a computer application can explicitly know that they are the same…because they are explicitly the same thing. Contrast this to if three different axis actually articulate the same information, basically implying that they are the same, but a human mapping is needed to communicate that fact to a computer software application.

OBSERVATION: The difference between the following two things is unclear: (a) an [Axis] and the related [Domain] and [Member]s being the same; and (b) the [Axis] being different, but the same [Domain] and [Member]s being used. It seems that both the [Axis] and the [Domain] and/or [Member] must be the same for an application to put this information together. However, I am not 100% certain about this detail.

22.3 TRAP: Indefinite-lived and Finite-Lived intangible assets are expressed in two different ways.

If you take a look at the balance sheet in the assets section, you will see the following relations for indefinite-lived intangible assets. (Note that the same thing is true for finite-lived intangible assets, but we will only walk through the indefinite-lived to make our point):
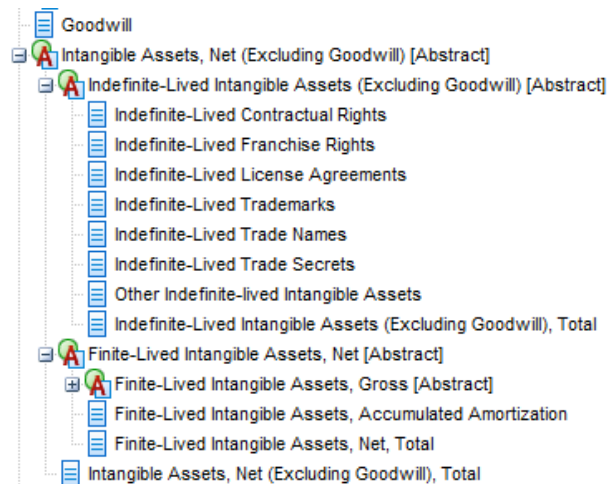
You can see different classes of intangible assets. Focusing on indefinite-lived intangible assets, we see seven classes and one total of all classes, which is the concept "Indefinite-Lived Intangible Assets (Excluding Goodwill), Total".

OBSERVATION: Note the capitalization inconsistency in "Other Indefinite-lived Intangible Assets".

All of these are individual concepts within the UGT.

So now consider the "Schedule of Indefinite-lived Intangible Assets by Major Class [Table]" which is within the disclosures. See this screen shot here:

The concept "Indefinite-Lived Intangible Assets (Excluding Goodwill)" is the same concept on the balance sheet with the label "Indefinite-Lived Intangible Assets (Excluding Goodwill), Total", the difference is which label role is being used. The point being, the concepts are the same.

What do we have here? We appear to have two different ways of expressing exactly the same information relating to indefinite-lived intangible assets. We would further point out that the taxonomy is inconsistent in these two areas:

- Note that "Trade Dress [Member]" which appears in the disclosures does not appear on the balance sheet.

- Note that "Other Indefinite-lived Intangible Assets" appears on the balance sheet, but not within the disclosures.

This is particularly interesting because the [Line Items] of this [Table] has exactly one concept within it. These two different things are literally 100% syntactically equivalents. In this particular case, there is no reason for the [Table] at all, it seems. If you were to look at the finite-lived intangible assets, you will see that the [Line Items] have numerous concepts.

A stronger case can be made for a [Table] due to the numerous concepts. But why are both provided?

The reason appears to have to do with the "presentation" orientation of the perspective of those creating the taxonomy, as compared to a data modeling perspective.

The way software applications implement XBRL today tends to not connect the details in the [Table] and the summary information on the balance sheet. The way GAAP works, some entities could put the details relating to classes of intangibles on the face of the balance sheet (i.e. the concepts approach) and then the information would be presented with the balance sheet network. Others put the classes within the disclosures (i.e. using the [Table]). By providing both, users can pick one of the two potions, based on how they "present" their information within their financial statements.

The problem with this is that comparing companies which do this in the two different ways becomes more challenging. This can be done (if the concepts and the members are consistent) by manually creating a mapping between the two approaches. However, if only one approach were used, there would not be a need for such a mapping, and there would be no need for this entire "TRAP" to explain what the heck is going on.

The [Table] approach has one very significant advantage over the concept approach for providing this information. That advantage is that the taxonomy would contain vastly fewer concepts if the set of [Line Items] was greater than one.

On the other hand, there is no real way to only use [Table]s to articulate breakdowns of detail. There needs to definite be some "line" created to understand when to use concepts and when to use a [Table] to breakdown information and that "line" must be communicated by the creators of the UGT to the users of the UGT clearly. That makes for the easiest to use taxonomy.

23 Disclosure – 400000 – Payables and Accruals

The network Payables and Accruals contains detailed disclosures for accounts payable, accrued liabilities, balances due to related parties, and such. (click here to navigate to the taxonomy)


23.1 *TIP: Unclassified and current use the same concept.*

It appears to be the case that noncurrent amounts have their own concept, but that certain current and unclassified concepts share the same concept. Preparers should read the documentation for concepts included in unclassified balance sheets, which give guidance as to whether a current asset in a classified balance sheet is also used in the unclassified balance sheet. As such, if an unclassified balance sheet is created, concepts labeled as noncurrent might not be the appropriate concept to be tagged.

24 Disclosure – 420000 – Asset Retirement Obligations

This Network contains information relating to asset retirement obligations. It is very straightforward, and has no [Table]s. It does have [Calculation]s and a [Roll Forward] and some [Hierarchy]s. (click here to navigate to the taxonomy)
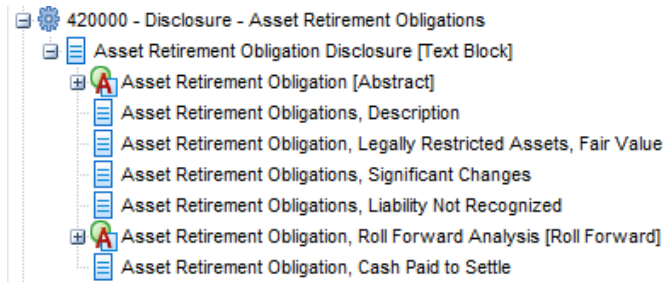
24.1 TRAP: Note the spelling inconsistencies between the concepts which say "Obligation" and those saying "Obligations".

Now, this is minor here in the grand scheme of things, but it stands out like a proverbial sore thumb. See the screenshot above. The UGT has worked hard to eliminate this sort of spelling inconsistency, but this slipped through. This does become important when things like entirely different words are used to mean the same thing, it makes it harder on the eyes. Consistent spelling and such is good practice and the UGT has worked hard to achieve this. But sometimes, things just slip through.

When creating a series of extension elements, labels should be consistent, and should be singular (e.g., obligation) rather than plural unless it is common practice for the concept to be expressed as plural.

25 Disclosure – 425000 – Environmental Remediation Obligations

The Environmental Remediation Obligations Network contains disclosures relating to such obligations. Each of the different modeling patterns is used in this Network, all of the structures are straight forward. (click here to navigate to the taxonomy)
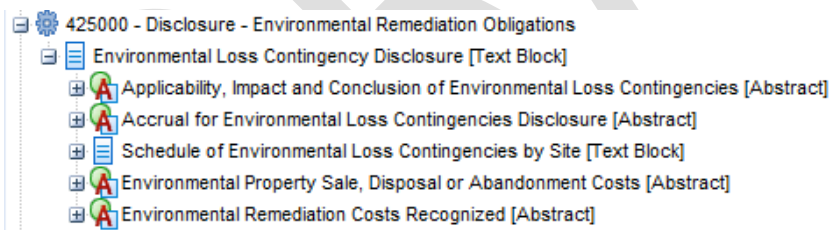
Of the approximately 118 relations within this network, about one third are the [Line Items] of the "Site Contingency [Table]". Although a large number of [Line Items], the concepts within the relations are straightforward with no significant relations which can make a [Table] harder to understand.

25.1 TRAP: Look out for the discount rate relating to the accrual for environmental loss contingencies buried within a [Calculation].

If you look at the structure below for the accrual of environmental loss contingencies, you will note two things:
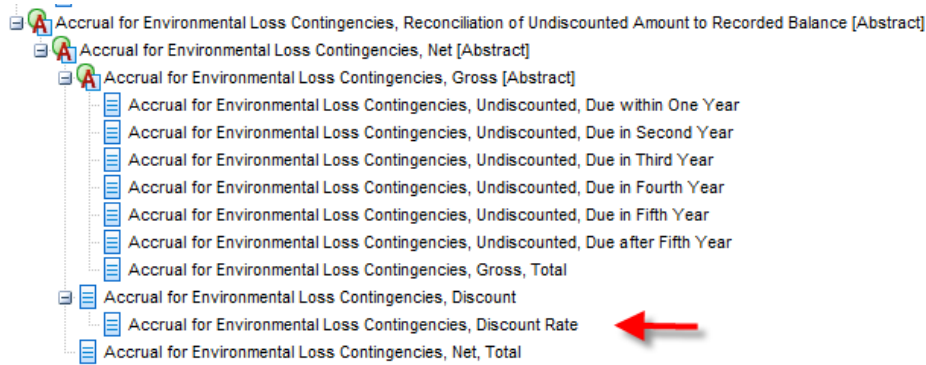
The first is that within the middle of a [Calculation] is the discount rate (indicated by the arrow) which is used to compute the discount. This breaks the logical flow of the calculation. This relation could be placed just outside the [Calculation] modeling pattern, perhaps as a sibling to the concept "Accrual for Environmental Loss Contingencies, Net [Abstract]".

The second thing to notice is that the very first concept in this structure has only one child concept which really serves no purpose really. If the concept "Accrual for Environmental Loss Contingencies, Reconciliation of Undiscounted Amount to Recorded Balance [Abstract]" were a [Text Block], this would make more sense. Otherwise, providing a categorization, only to provide another categorization immediately after that serves no real purpose.

26 Disclosure – 430000 – Exit or Disposal Cost Obligations

The Exit or Disposal Cost Obligations Network includes disclosures relating to restructurings, planned restructurings, and such. The Network is rather straightforward containing a number of [Hierarchy]s, [Calculation]s, and three [Table]s. Within one of the [Tables]s is a [Roll Forward]. (click here to navigate to the taxonomy)

26.1 *TIP: Note that the tree for "Restructuring Charges [Abstract]" appears in four different locations within the taxonomy.*

Consider the following screenshot: (click here to navigate to the taxonomy)
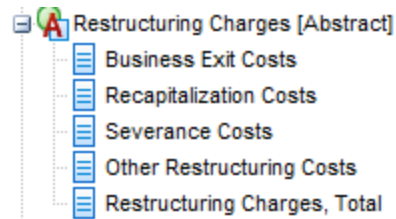
First off note that this [Abstract] concept is really a [Calculation] as indicated by the total label on the last concept, and as you will see that this is a calculation if you look within the calculations linkbases.

The next thing to note is that the concept appears in four different places in the C&I taxonomy. Consider this screenshot (you can see this by clicking on the concept 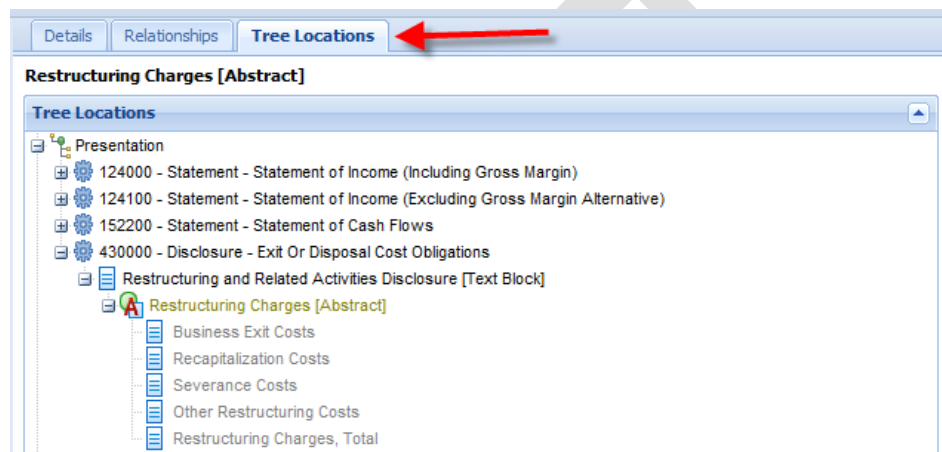"Restructuring Charges [Abstract]" in the left pane, then clicking on the "Tree Locations" tab in the right pane within the XBRL US Taxonomy Viewer:


There are a number of things which can be learned here. The first is the difference between a concept and a relation. The concept "Restructuring Charges [Abstract]" is the exact same concept in every one of these locations in the tree view pane. That is how the application finds the relations, by looking for all the relations it participates in within different Networks. Another way to look at this is to consider what would happen if that concept were duplicated within the taxonomy. How would the application pull up all relations of: (a) the concept you are looking for; and (b) the concept which is identical to this concept. Well, it cannot. This is one of the negatives of using two concepts to represent exactly the same concept.

Another thing to notice is that if you open each of the Networks within the tree view and look at the concept, you will note that each tree is identical, containing the same children concepts, in the same order, in all places. This is what you would expect. Why would they ever be different? Well, because they do add up differently in other places or because there is an error in the taxonomy. But here everything looks good.

27 Disclosure – 440000 – Deferred Revenue

Included in the Deferred Revenue Network is just a hand full of concepts relating to deferred revenue, all being rather straightforward. There is one [Table] which breaks out information which is reported on the balance sheet. (click here to navigate to the taxonomy)
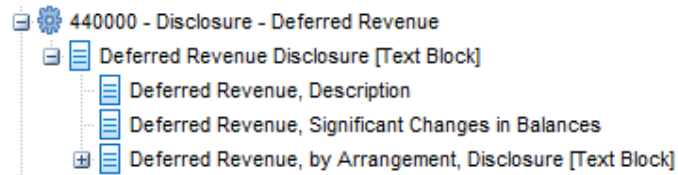
27.1 TRAP: Be sure that your schedule of deferred revenue arrangements ties to the balance sheet.

Consider the following screenshot: (click here to navigate to the taxonomy)
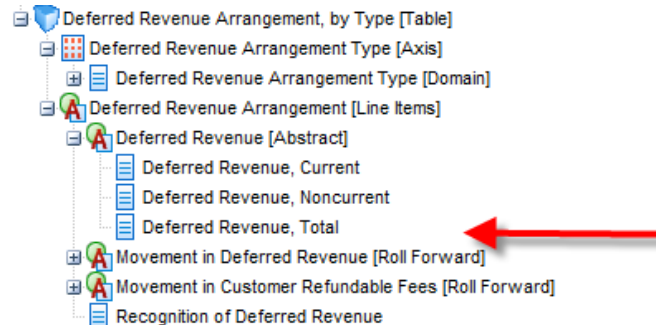
Note the first three concepts within the [Line Items] packaged together in the form of a [Calculation]. Depending whether the preparer has a classified our unclassified balance sheet, either the current and noncurrent or the total Deferred Revenues fact value reported should tie to the balance sheet and an XBRL Formula should be provided to indicate that the detail here and the summary on the balance sheet tie together correctly. Note also that this observation applies generally to the overall taxonomy – you need to make sure that the detail in the footnote disclosures tie to the primary financial statements.

28 Disclosure – 450000 – Commitment and Contingencies

The Commitments and Contingencies Network contains disclosures relating to Commitments, loss contingencies, gain contingencies, commitments to purchase or supply under long term contracts, long term purchase commitments, unconditional purchase obligations, registration payment arrangements, and product warranty disclosures. (click here to navigate to the taxonomy)
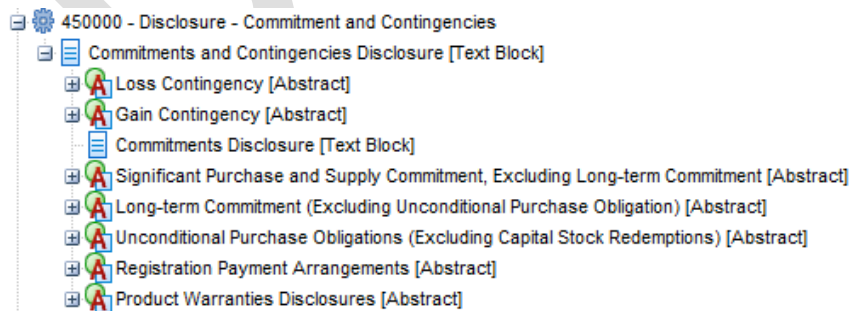

OBSERVATION: Seems that "Commitments Disclosure [Text Block]" should be first on the list due to the name of the Network and the name of the root element of the Network. Alternatively, this could be called "Contingencies and Commitments". Another thing might be to have two second level [Text Block]s for organization: "Commitments Disclosures [Text

All of the different modeling patterns are represented within this Network. There are three sections which make up the vast majority of the relations: the "Loss Contingencies [Table]" with 102 relations, the "Product Liabilities Contingency [Table]" with 44 relations, and the "Product Warranties [Abstract]" section with 42 relations.

28.1 TIP: Don't be confused by the different approaches to categorization.

Note the "Loss Contingencies [Line Items] in the screen shot below:
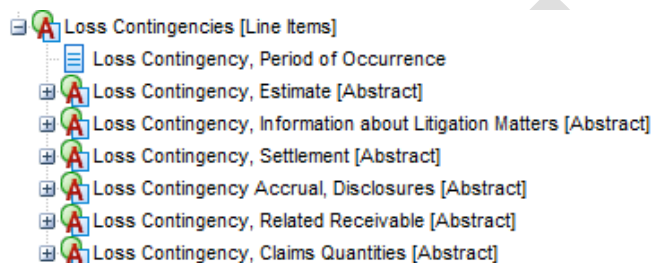
Contrast that with the "Product Liability Contingency [Line Items] which are shown here:
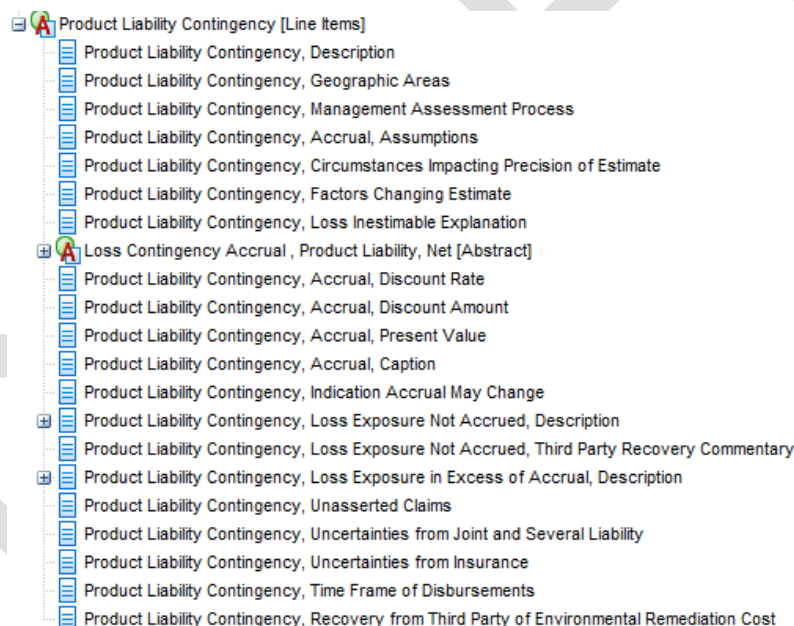
The first uses a lot more categorization to organize concepts than the second. By putting the two next to each other one can see the pros and cons of each approach. The lack of consistency can also be clearly seen.

Lots of categorization can make the taxonomy fragments easier to read in the right situations, but it also means that the use of the taxonomy needs to drill down into more levels of the taxonomy.

The use of less categories means less drilling into deeper sections, but it makes for longer lists of concepts making it potentially harder to find what you may be looking for.

It is unclear as to which is the better approach. The UGT would need to balance all of these dynamics to provide the best working organization for those making use of the taxonomy. Further, it is highly unlikely that one UGT will meet every users specific needs in all cases. There is no doubt that additional versions of the UGT will be created. If done correctly, having

different organizations will not be a problem. However, if done incorrectly it certainly can become a problem.

28.2 TRAP: Watch out for flip flopping of labels.

The labels used on concepts do make a big difference when working with the UGT. Visually, consistent labels make a bid difference. When searching through the taxonomy using software to grab all of the concepts which have a specific word or set of words within the label of a concept also helps or hinders what software can do for a user of the taxonomy.

Consider the screen shot below - there are a couple of things to notice.
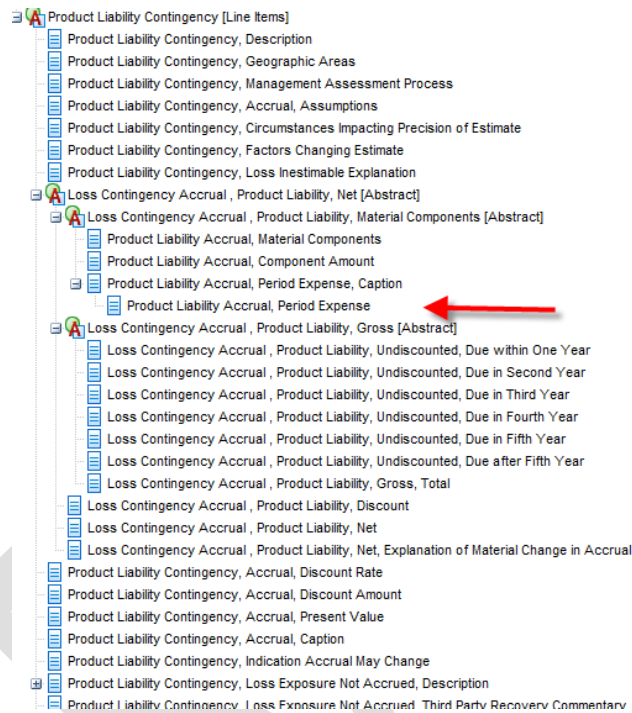
The first thing to notice is how, in this section, the placement of certain terms flip flops in one section of the taxonomy. From the previous section we pointed out that "Loss Contingency" was actually in a different [Table]. Simply flipping the labels which start with the term "Loss Contingency" and putting "Product Liability" in the front of the label makes this section easier to read. Or, perhaps dropping the portion of the label which says "Loss Contingency" altogether would give a better separation between the "Loss Contingency" [Table] and the "Product Liability" [Table]. Search results would also be cleaner if this were dropped.

One additional thing worth pointing out. Note the arrow above pointing to the single child concept. That hierarchy within the structure is perhaps not needed.

29 Disclosure – 456000 – Guarantees

The Guarantees Network contains one [Table] which includes one straightforward [Set] relating to obligations for guarantees which are to be disclosed by reporting entities. (click here to navigate to the taxonomy)
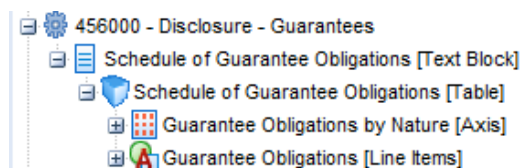
29.1 TIP: Some concepts within a [Set] or other modeling pattern add up, some do not, and there is no real way to tell the difference. Also, some totals are required to be disclosed, others are not, and there is no real way to tell the difference.

Consider the following screenshot which includes the [Line Items] if the single [Table] for guarantee obligations: (click here to navigate to the taxonomy)

We will use this [Set] to make a few points. First, this is a set because: (a) the concepts go together, i.e., they all relate to a guarantee obligation; and (b) they can repeat, i.e., there can be more than one guarantee obligations.

Within this [Set] of concepts, some numeric item concepts are logical to add up, others are not. For example, it is logical to add up, say, the "Guarantee Obligations, Current Carrying Value". The total of each obligation adds up to the total of all obligations. Clearly you would not add up the "Guarantee Obligations, Triggering Event", since it is nonnumeric.

Now, whether you must add up and provide a total is dependent on GAAP and SEC requirements, not interactive data. It is easy to "turn off" the capacity to add up the [Set] of concepts of a [Table]. This is done by marking the [Domain] of the [Axis] as not being usable within the set of [Axis] values. This is easy enough to do. Now, the UGT did not do this for any [Domain]s, and therefore you can add up any concepts within any [Table] in the UGT.

There is no way to indicate which concepts should and should not be added up, however. This means that users of the taxonomy will need to rely on their GAAP and SEC knowledge to understand what to add up and what does not have to be added up and disclosed.

This notion of summing concepts within a table does not only apply to Guarantee Obligations. We are using this simple example to make the point. This notion applies to every [Table] within the UGT.

30 Disclosure – 460000 – Debt

The Debt Network contains disclosures relating to short-term and long-term debt, defaults on debt, extinguishment of debt, troubled debt restructuring, participation agreements for mortgage loans, and interest expense disclosures. (click here to navigate to the taxonomy)
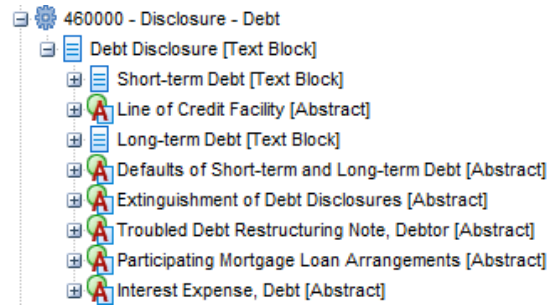
There are a few rather large tables such as for Line of Credit Facilities and the details of long term debt instruments. But although large, they are simply a [Set] of information comprised of straight forward concepts which relate to what is being disclosed.

Many of the details tie to either a classified or unclassified balance sheet, and classified for all commercial and industrial companies.

30.1 TIP: Long-term Debt is another case where presentation and calculations will be in different networks.

Long-term debt is another concept which is broken out in many different ways. (Please note the discussion relating to this in the Income Taxes section). As such, remember that the calculations may exist in different networks. Note this screen shot of the "Tree Locations" tab for the concept "Long-term Debt".

Note the different breakdowns for component, maturity, current/noncurrent, each in a different physical Network.

30.2 TRAP: Defaults of Short-term and Long-term Debt most probably should be a [Table].

The UGT provides for disclosing only one default on short-term and long-term debt; however the documentation seems to indicate that each violation must be disclosed. Consider this screenshot. (click here to navigate to the taxonomy)
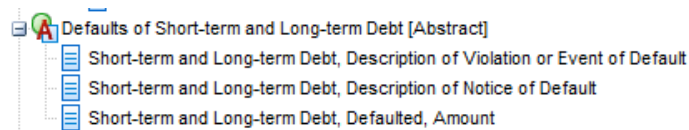
This is not a [Set] within a table, but rather one [Hierarchy] which cannot be repeated.

To work around this, simply either: (a) turn this into a [Table] if you have more than one default; or (b) create duplicates of this structure for each default.

30.3 TRAP: Details within the disclosures which tie to the balance sheet (or other statements) should use the same concepts. Sometimes they don't.

Consider this concept on the balance sheet:
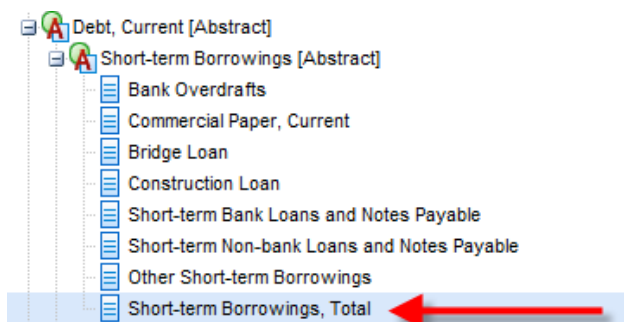
And the concept in the short-term borrowing disclosures:
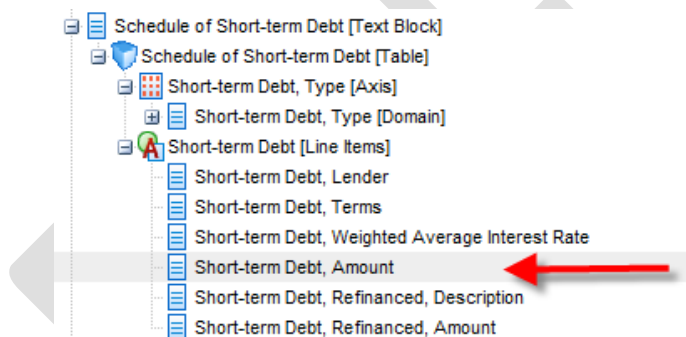
Shouldn't these be the same concept?

Basically, it seems to be the case that the table details what is on the balance sheet. If the answer is "Yes", then they SHOULD be the same concept. If not, then: (a) what DOES detail that number; or (b) what is the table detailing?

Same deal for the Debt Instruments table:
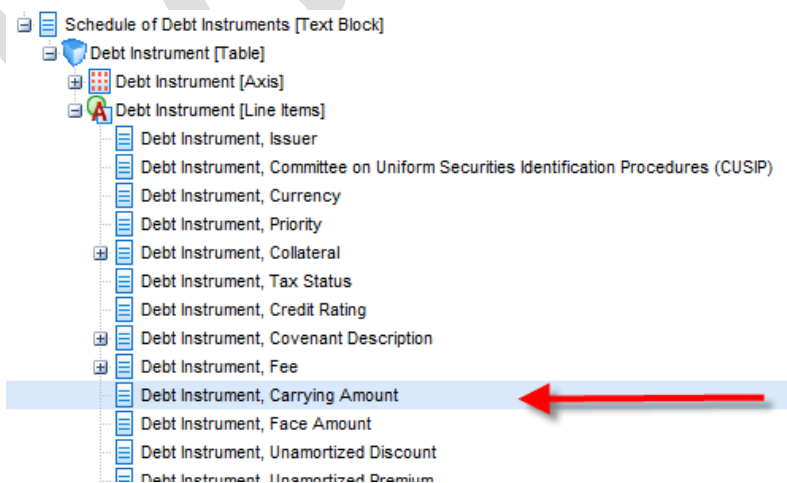
This table details what is on the balance sheet, the sum of the Current and Noncurrent portions. It also details maturities, which add up to total debt. If so, then these should be the same concept as the unclassified or total long term debt concept.

31 Disclosure – 470000 – Other Liabilities

Includes Derivative Financial Instruments Indexed to, and Potentially Settled in, Entity's Own Stock; Other Liabilities and Shares Subject to Mandatory Redemption; and warrants and rights disclosures.

The Other Liabilities Network contains disclosures relating to derivative financial instruments indexed to an entity's own stock; other liabilities and shares subject to mandatory redemption; and warrants and rights. (click here to navigate to the taxonomy)
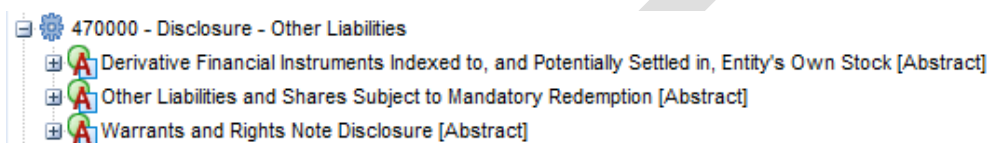
Details are concepts, not table.

31.1 TRAP: This Network is one of the rare cases where there are multiple root concepts.

As there are multiple root concepts, and as there is no specified consistent way to sort root concepts, these three root concepts may appear in different orders in different software applications.

31.2 TIP: The details of "Other Liabilities, Current" and "Other Liabilities, Noncurrent" are concepts, not a [Table].

Both the current and noncurrent portions of other liabilities are expressed as concepts, as opposed to a [Table]. (Note the Network 750000 for Other Income and Expenses and note section 2.6 Modeling Options, Syntax and Consistency for more details about expressing this type of information using concepts or using a [Table].)

Other Liabilities, Current [Abstract]
- Billings in Excess of Cost
- Restructuring Reserve, Current
- Deposit Liability, Current
- Customer Advances and Deposits, Current [Abstract]
- Refundable Gas Costs
- Shares Subject to Mandatory Redemption, Settlement Terms, Amount, Current
- Other Sundry Liabilities, Current
- Other Liabilities, Current, Total

Other Liabilities, Noncurrent [Abstract]
- Coal Supply Agreement Obligation, Noncurrent
- Contributions in Aid of Construction
- Customer Advances or Deposits, Noncurrent [Abstract]
- Customer Refund Liability, Noncurrent
- Derivative Liabilities, Noncurrent
- Liabilities of Disposal Group, Including Discontinued Operation, Noncurrent
- Liability Above Market for Nonutility Generator Contracts, Noncurrent
- Litigation Reserve, Noncurrent
- Regulatory Liability, Noncurrent
- Restructuring Reserve, Noncurrent
- Self Insurance Reserve
- Shares Subject to Mandatory Redemption, Settlement Terms, Amount, Noncurrent
- Other Noncurrent Liabilities
- Other Liabilities, Noncurrent, Total

In particular it is a bit odd that this section of the UGT is expressed using concepts, as opposed to using a [Table] type approach. This set of line items appears to be about as general as one could get. Given Other Operating Cost and Expense, Other Income, Nonoperating, and Other Expense, Nonoperating, it is hard to figure out why this particular area would be expressed as concepts.

Nevertheless, this approach will certainly work; but it does leave one curious about the rational for when to use one approach or when to use the other. This is particularly important when trying to figure out how to best represent information within extension taxonomies if a preparer needs to create a totally new structure.

31.3 TRAP: Other Liabilities, Unclassified is somewhat unique.

Consider the following screen shot for Other Liabilities, Current:

Other Liabilities, Current [Abstract]
- Billings in Excess of Cost
- Restructuring Reserve, Current
- Deposit Liability, Current
- Customer Advances and Deposits, Current [Abstract]
- Refundable Gas Costs
- Shares Subject to Mandatory Redemption, Settlement Terms, Amount, Current
- Other Sundry Liabilities, Current
- Other Liabilities, Current, Total

And this screen shot for Other Liabilities, Noncurrent:
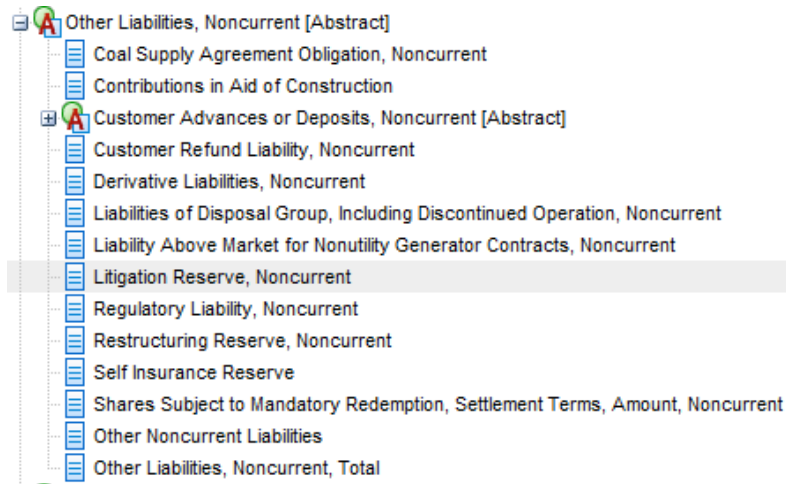
The approach taken here is similar to how the breakdowns of current and noncurrent were handled for Receivables, Loans, Notes Receivable, and Others (320000, see the discussion for that Network); in contrast to how these breakdowns Payables and Accruals were created (400000, see the discussion for that Network) where "Current" and "Unclassified" use the same concepts.

Here for Other Liabilities, it seems that a third approach is being used. Consider the following screen shot:

At first glance, it seems that separate concepts were created for unclassified, but this is different than receivables. Note that there is no "Total"; that structure is not a [Calculation] like receivables, but rather a [Hierarchy]. It is just a list of concepts, and many of the concepts don't exist in either the current or noncurrent lists.

For example, the "Restructuring Reserve" in the unclassified list is also in both the current and noncurrent lists; however, "Guaranty Liabilities" is not.

How the preparers should use the unclassified list is not clear. It might be the case that the users are expected to move the concepts from the unclassified list to either the current or noncurrent list to use them. Or, say, one uses an unclassified balance sheet. There is no complete list of concepts to use.

One might reasonably expect a complete list of concepts for the unclassified version of other liabilities. In that way, (a) if the user had a classified balance sheet, then both the current and noncurrent lists would be used; otherwise (b) if the preparer had an unclassified balance sheet, the single (but complete) list of unclassified other liabilities could be used.

As it stands now, it appears that no list is really complete.

32 Disclosure – 472000 – Minority Interest

The Minority Interest Network contains one [Table] and two other concepts relating to minority interest, but are not related to that [Table]. (click here to navigate to the taxonomy)
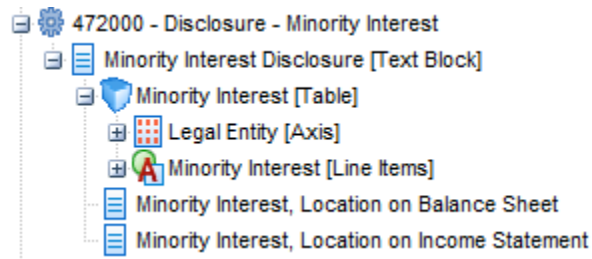
One interesting portion of this network to mention is the [Roll Forward] which has a nested [Calculation]. See the concept "Minority Interest in Net Income (Loss) of Consolidated Entities [Abstract]" and its children.

33 Disclosure – 480000 – Temporary Equity

The Temporary Equity Network contains disclosures relating to redeemable preferred stock and redeemable convertible preferred stock. The disclosures are captured using two rather straightforward tables. (click here to navigate to the taxonomy)
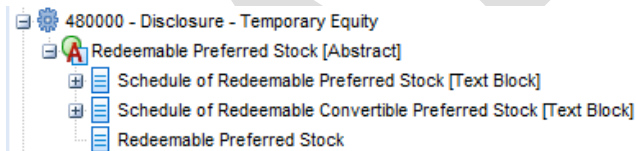
33.1 TRAP: The relationship between temporary equity as articulated here in the disclosures and temporary equity as articulated within the balance sheet.

Consider the following screenshot of the [Line Items] of Redeemable Preferred Stock: (click here to navigate to the taxonomy)

And this screen shot of the [Line Items] of Redeemable Convertible Preferred Stock: (click here to navigate to the taxonomy)

```
⊟ Ⓐ Redeemable Convertible Preferred Stock [Line Items]
      Redeemable Convertible Preferred Stock, Value, Excluding Additional Paid in Capital
      Redeemable Convertible Preferred Stock, Description
      Redeemable Convertible Preferred Stock, Shares Authorized
      Redeemable Convertible Preferred Stock, Shares Issued
      Redeemable Convertible Preferred Stock, Shares Outstanding
      Redeemable Convertible Preferred Stock, Value of Shares Subscribed but Unissued
      Redeemable Convertible Preferred Stock, Subscriptions Receivable
      Redeemable Convertible Preferred Stock, Redemption Price Per Share
      Redeemable Convertible Preferred Stock, Carrying Amount
      Redeemable Convertible Preferred Stock, Accounting Treatment
      Redeemable Convertible Preferred Stock, Aggregate Amount of Redemption Requirement
      Redeemable Convertible Preferred Stock, Contract Terms
⊞ Ⓐ Increase (Decrease) in Redeemable Convertible Preferred Stock [Roll Forward]
```
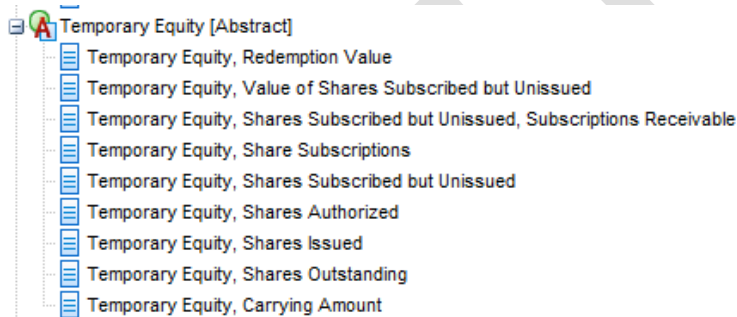
And now compare the two items above which are contained within the temporary equity disclosures to the section of the balance sheet which has information about temporary equity: (click here to navigate to the taxonomy)

```
⊟ Ⓐ Temporary Equity [Abstract]
      Temporary Equity, Redemption Value
      Temporary Equity, Value of Shares Subscribed but Unissued
      Temporary Equity, Shares Subscribed but Unissued, Subscriptions Receivable
      Temporary Equity, Share Subscriptions
      Temporary Equity, Shares Subscribed but Unissued
      Temporary Equity, Shares Authorized
      Temporary Equity, Shares Issued
      Temporary Equity, Shares Outstanding
      Temporary Equity, Carrying Amount
```
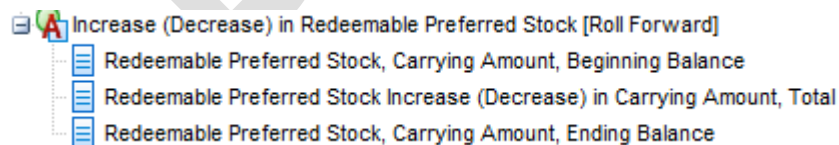
Preparers are expected to revise the standard label of the Balance Sheet concept to conform to the description to the description of the temporary equity that is issued. We note that the concept "Temporary Equity, Carrying Amount" adds into "Liabilities and Stockholders' Equity", and you can see this by looking at the calculation linkbase in the balance sheet Network).

As in many other parts of the taxonomy, what is reflected on the balance sheet can be further broken down by the two categories provided in the Temporary Equity Network.

Most reporting entities do not have temporary equity. Even fewer have two classes of temporary equity, hence this issue will affect only a small number of entities.

33.2 TIP: The [Roll Forward]s for Redeemable Preferred Stock and Redeemable Convertible Preferred Stock are slightly different than most other [Roll Forward]s.

Consider the following screenshot: (click here to navigate to the taxonomy)

```
⊟ Ⓐ Increase (Decrease) in Redeemable Preferred Stock [Roll Forward]
      Redeemable Preferred Stock, Carrying Amount, Beginning Balance
      Redeemable Preferred Stock Increase (Decrease) in Carrying Amount, Total
      Redeemable Preferred Stock, Carrying Amount, Ending Balance
```
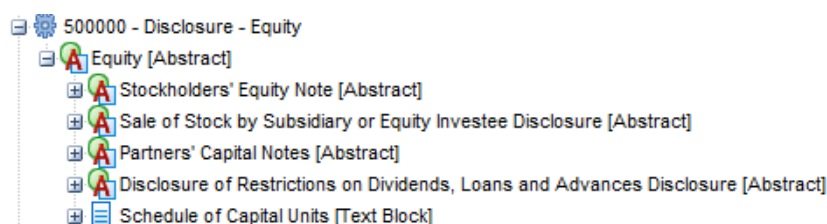
If you look at other [Roll Forward]s as compared to the Redeemable Preferred Stock [Roll Forward] shown above and the Redeemable Convertible Preferred Stock [Roll Forward] just below it (not shown) you will notice that there is only a total in the middle of the beginning and ending balance. Other [Roll Forward]s typically have a few other concepts. But this is, none the less, a [Roll Forward].

Keep in mind that this [Roll Forward] and others cannot have the computations articulated using XBRL calculations, XBRL Formulas must be used. This is because XBRL calculations will only work if the contexts of fact values are within the exact same context.
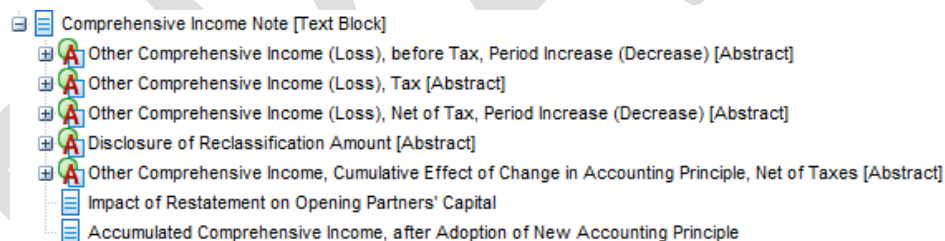
34 Disclosure – 500000 – Equity

The Equity disclosure Network contains disclosures relating to stockholders' equity, sale of stock by a subsidiary or equity investee, partners' capital, restrictions on dividends, loans, and advances and the capital units. (click here to navigate to the taxonomy)

```
500000 - Disclosure - Equity
   Equity [Abstract]
      Stockholders' Equity Note [Abstract]
      Sale of Stock by Subsidiary or Equity Investee Disclosure [Abstract]
      Partners' Capital Notes [Abstract]
      Disclosure of Restrictions on Dividends, Loans and Advances Disclosure [Abstract]
      Schedule of Capital Units [Text Block]
```

This is one of the larger Networks weighing in with approximately 525 relations (sixth largest of all the CI Networks). There might have been two things which could have been done to perhaps reduce this size. First, because no entity would be both a partnership and a corporation, the Partners Capital could have been placed into a separate Network. If these were in separate Networks in separate files, then preparers could use one of the two. This would not burden corporations with partnership relations or partnerships with corporation relations. This may not seem like much, but the Stockholders' Equity Note [Abstract] concept has 353 relations within it and the Partnerships' Capital Notes [Abstract] concept has 192 relations within it.

Additionally, both of these two concepts have the concept Comprehensive Income Note [Text Block] as children, duplicating the tree of 84 concepts in both places. See this screenshot: (click here to navigate to the taxonomy) and (click here to navigate to the taxonomy)

```
Comprehensive Income Note [Text Block]
   Other Comprehensive Income (Loss), before Tax, Period Increase (Decrease) [Abstract]
   Other Comprehensive Income (Loss), Tax [Abstract]
   Other Comprehensive Income (Loss), Net of Tax, Period Increase (Decrease) [Abstract]
   Disclosure of Reclassification Amount [Abstract]
   Other Comprehensive Income, Cumulative Effect of Change in Accounting Principle, Net of Taxes [Abstract]
   Impact of Restatement on Opening Partners' Capital
   Accumulated Comprehensive Income, after Adoption of New Accounting Principle
```

34.1 TRAP: Class of stock structures in equity disclosures are inconsistent with the balance sheet.

Consider the following screenshot of Disclosure 500000: (click here to navigate to the taxonomy)
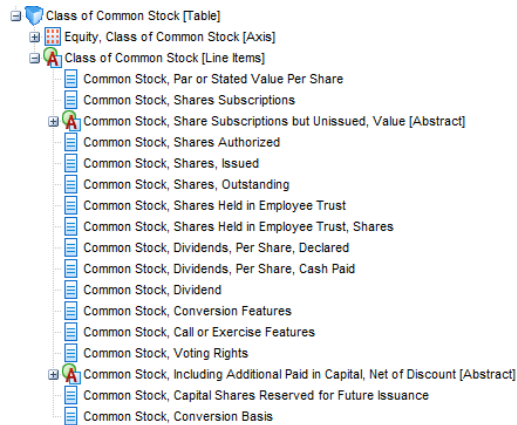
Compare this to the same thing on the balance sheet: (click here to navigate to the taxonomy)

Several points:

- Keep in mind that this issue has nothing to do with what is disclosed where. Clearly more information is contained in the disclosures than on the face of the balance sheet. That is how cubes work, the same concept can be used by multiple cubes.

- What the issue is here is that in the equity disclosures the concepts exist within a [Set], but in the balance sheet it is a different type of structure. The axes do not match. All the balance sheet line items are in the same [Set] as the class of stock information, which is odd.

- How does the "Additional Series" which are totally different concepts fit into the table which articulates information here in the equity disclosures for information about the class of stock?

- Why is the class of stock [Axis] in the statement of changes in equity simply "Class of Stock [Axis]" as compared to "Equity, Class of Common Stock [Axis]" in the equity disclosure?

- This example shows common stock, but the same issues exist for preferred stock.

It appears that the classes of stock information in various places is out of sync. The problem which this will potentially cause is that exactly the same thing will be disclosed in multiple places and the different places cannot be put together by a computer application for the user.

It does appear that all the information that a preparer will need to report can be reported. But the logic here can be hard to follow and you may not see what you want to see within computer applications
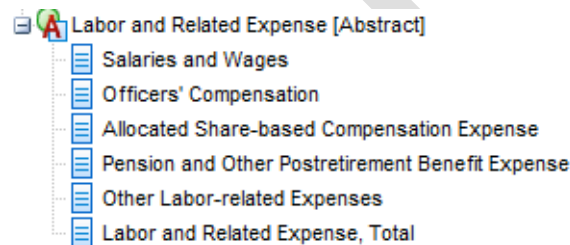
35 Disclosure – 705000 – Compensation Related Costs, General

The Compensation Related Costs, General Network contains a variety of different structures, all of which are straightforward. (click here to navigate to the taxonomy)
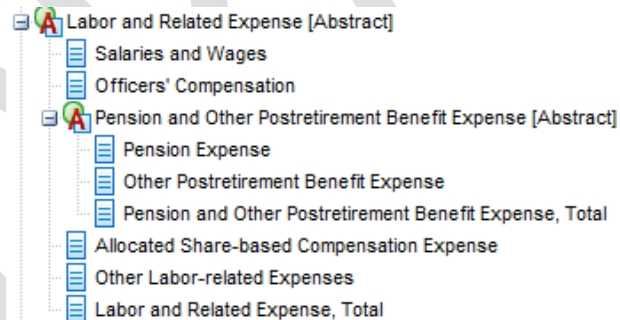
```
705000 - Disclosure - Compensation Related Costs, General
   Compensation Related Costs, General [Text Block]
      Compensated Absences [Abstract]
      Compensated Absences Liability [Abstract]
      Deferred Compensation Liability [Abstract]
      Deferred Compensation Arrangements [Abstract]
      Income Statement Compensation Items [Abstract]
```

35.1 TIP: Labor and Related Expense is different in the disclosures than it is in the income statement.

Consider the following screen shot of "Labor and Related Expenses [Abstract]", which is basically a [Calculation] contained within the compensation related costs, general disclosures. (click here to navigate to the taxonomy)

```
Labor and Related Expense [Abstract]
   Salaries and Wages
   Officers' Compensation
   Allocated Share-based Compensation Expense
   Pension and Other Postretirement Benefit Expense
   Other Labor-related Expenses
   Labor and Related Expense, Total
```

Now consider "Labor and Related Expenses [Abstract]", also a [Calculation] which is articulated within the income statement. (click here to navigate to the taxonomy)

```
Labor and Related Expense [Abstract]
   Salaries and Wages
   Officers' Compensation
   Pension and Other Postretirement Benefit Expense [Abstract]
      Pension Expense
      Other Postretirement Benefit Expense
      Pension and Other Postretirement Benefit Expense, Total
   Allocated Share-based Compensation Expense
   Other Labor-related Expenses
   Labor and Related Expense, Total
```

You can see that the income statement has more detail than the disclosures, which may seem odd. One might expect the disclosures to have perhaps more detail or for both sets of computations to be identical. However, the components of Labor and Related Expense are rarely combined in the footnote disclosure in this manner, and such costs are typically a component of larger classifications of expenses (e.g., SG&A, cost of sales, R&D). The income statement structure, like the balance sheet structure, includes selected children that may reach the threshold of materiality to require them to be separately reported on the primary financial statements.

36 Disclosure – 710000 – Compensation Related Costs, Share Based Payments

The Compensation Related Costs, Share Based Payments Network contains disclosures relating to such disclosures.   The Network is on the large side with approximately 245 relations. All of the different modeling patterns are represented within this Network. (click here to navigate to the taxonomy)

36.1 TRAP: The [Table] "Schedule of Share-based Compensation Arrangements by Share-based Payment Award [Table]" appears to be quite large and potentially confusing.

With 92 concepts within its [Line Items], the [Table] "Schedule of Share-based Compensation Arrangements by Share-based Payment Award [Table]" is one of the larger and one of the more confusing structures within the UGT.

There are several things which contribute to making this structure confusing including the following:

- The shear length of the concept labels contribute to making this structure appear complex.   The same "Share-based Compensation Arrangement by Share-based Payment Award," appears in every label.   The labels clearly need to be unique and

readable; however, there are a number of ways to have these two characteristics and also have a shorter label.

- This [Table] could be better broken up if the first set of twelve concepts could exist within an [Abstract] concept to help organize the [Line Items]. For example, using a concept "Share-based Payment Award, General Information [Abstract]" or something to that effect could be used to provide a categorization for those concepts.

- Several of the structures use the period start and period end labels seemingly incorrectly. (See the two TRAPs below).

- Perhaps another layer or categorization in some of the structures might help to organize the structure.

The bottom line is that if this structure was less overwhelming, that might be a very good thing.

36.2 TRAP: *Period start and period end label roles appear misused.*

The period start and period end label roles exist to be used within a [Roll Forward] type of modeling pattern. Yet, they are used within the following structure which is used to articulate the reconciliation of share-based payment awards:

This set of concepts has all the signs of a [Roll Forward], yet it is not modeled as a [Roll Forward] for some reason.

[CSH: Christine, what is going on with this? This sort of seems like a [Roll Forward], but I can also sort of see that it is not. This seems to similarly misuse the period start and period end label roles. There is one other of these in this same table.]

[CT: This is not a roll forward. SFAS 123R requires the disclosure of the beginning and end of period for the weighted average exercise price. The two concepts that you point out appear to capture that. I agree that the labeling of the concept can be construed to be the Period Start and Period End label in a roll forward.]

36.3 TRAP: *Period start and period end label roles appear misused, again.*

The period start and period end label roles exist to be used within a [Roll Forward] type of modeling pattern. Yet, they are used within the following structure which is used to articulate the exercise price range of shares authorized under stock option plans:

There is another reason the period start and period end label roles are quite odd on these concepts. Generally, the period start and period end label role is used on concepts which have a period type of instant. Yet, here they are being used on concepts which have a period type of duration also which makes little sense as a duration is a period (i.e., having both a start period and end period).

Further, this is the ONLY place within the UGT where this type of situation is occurring. In all other cases, period start and period end labels exist only within a [Roll Forward].

[CSH: Christine we should discuss this. I don't know what is trying to be articulated but this is not correct how this is being done.]

[CT: I think I know what is going on here - the GAAP requires all of these concepts to be disclosed for the beginning of the period balance as well as for the end of period. Hence, all of these elements should not part of a roll forward. The labeling of the elements is confusing since it contradicts the convention of how we label beginning of period balances and ending period balances in a roll forward.]

[CSH: OK, but consider a balance sheet. In a balance sheet, two periods are shown. There is no label that says "current period" and "prior period". If the beginning and ending balances need to be shown, the user of the taxonomy will know what information to report. The fundamental point here is about how beneficial patterns are, and making exceptions to the patterns causes VASTLY more knowledge on part of the business user, harder to use software, harder to understand taxonomies, etc.]

36.4 TRAP: [Roll Forward] with a string buried within the structure.

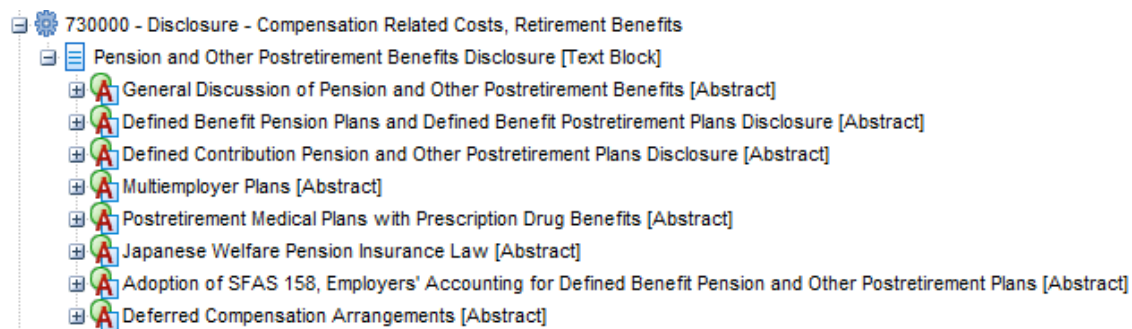The following structure which is built as a [Roll Forward] has a string which does not really participate in the [Roll Forward], but rather describes information which relates to one concept within the [Roll Forward].

This concept could easily be placed just outside the [Roll Forward] thus making the concept arguably more logical and also not breaking the modeling pattern of a [Roll Forward].

37 Disclosure – 730000 – Compensation Related Costs, Retirement Benefits

The Compensation Related Costs, Retirement Benefits Network contains concepts and relations used for such disclosures. This includes general information about postretirement benefits, disclosures relating to each defined benefit plan, disclosures relating to each defined contribution plan, multiemployer plans, postretirement medical and drug prescription plans, Japanese welfare pension insurance disclosures, information relating to the adoption of SFAS 158, and deferred compensation arrangements. (click here to navigate to the taxonomy)

```
730000 - Disclosure - Compensation Related Costs, Retirement Benefits
    Pension and Other Postretirement Benefits Disclosure [Text Block]
        General Discussion of Pension and Other Postretirement Benefits [Abstract]
        Defined Benefit Pension Plans and Defined Benefit Postretirement Plans Disclosure [Abstract]
        Defined Contribution Pension and Other Postretirement Plans Disclosure [Abstract]
        Multiemployer Plans [Abstract]
        Postretirement Medical Plans with Prescription Drug Benefits [Abstract]
        Japanese Welfare Pension Insurance Law [Abstract]
        Adoption of SFAS 158, Employers' Accounting for Defined Benefit Pension and Other Postretirement Plans [Abstract]
        Deferred Compensation Arrangements [Abstract]
```

The Network is on the large side, containing approximately 274 relations covering the spectrum of modeling patterns. The Network is well organized at the top level, providing a concise list of categories which helps users of the Network locate what they are looking for.

Of the 274 relations, 174 are used within the "Schedule of Defined Benefit Plans Disclosures [Table]", and most within the [Line Items]. The balance of the relations are spread out among the other areas of disclosure. This large set of [Line Items] is fairly well categorized and if the user thinks about it as lots of small parts, it makes using this potentially overwhelming section much easier to comprehend.

37.1 TIP: Categorization can be an asset or a liability, depending on how it is used (i.e., categorization can be helpful or a hindrance).

Take a good look at the first level of relations within this network in the screen shot above. Notice first that there is one root concept which is used to organize the contents of the Network. We would point out that the name of the Network (i.e., "Compensation Related Costs, Retirement Benefits") and the name of the first concept within the network (i.e. "Pension and Other Post Retirement Benefits Disclosure [Text Block]") could be more correlated, which would make it more helpful.

Then, within that root concept, the first level of concepts is a manageable number, giving the user a good number within that categorization to choose from…not too long a list to wade through, but not so small a list that the user is constantly having to drill down more and more levels.

What is a bit odd is that the first concept in the network is a [Text Block], but all the concepts at this level are [Abstract]. What this means is that a preparer could group the entire pension and other post retirements benefits disclosure into how HUGE chunk (i.e., that [Text Block]), but they could not break that potentially huge disclosure into smaller chunks (i.e., that next level of concepts also been [Text Block]s as opposed to being unusable [Abstract] concepts). It would seem quite useful to have that second level as [Text Block]s, not [Abstract] concepts.

The next thing to look at is the next level of depth which can be seen in the following screenshot:

```
□ ⚙ 730000 - Disclosure - Compensation Related Costs, Retirement Benefits
  □ 📄 Pension and Other Postretirement Benefits Disclosure [Text Block]
    □ Ⓐ General Discussion of Pension and Other Postretirement Benefits [Abstract]
        📄 General Discussion of Pension and Other Postretirement Benefits
    □ Ⓐ Defined Benefit Pension Plans and Defined Benefit Postretirement Plans Disclosure [Abstract]
        📄 Defined Benefit Plans, General Information
      ⊞ 📄 Schedule of Defined Benefit Plans Disclosures [Text Block]
    □ Ⓐ Defined Contribution Pension and Other Postretirement Plans Disclosure [Abstract]
        📄 Description of Defined Contribution Pension and Other Postretirement Plans
        📄 Defined Contribution Plan, Cost Recognized
        📄 Description of Nature and Effect of Significant Changes During Period Affecting Comparability
    □ Ⓐ Multiemployer Plans [Abstract]
        📄 Description of Multiemployer Plan
        📄 Multiemployer Plan, Period Contributions
        📄 Multiemployer Plan, Withdrawal Obligation
        📄 Multiemployer Plan, Significant Changes Impacting Comparability
    □ Ⓐ Postretirement Medical Plans with Prescription Drug Benefits [Abstract]
      ⊞ 📄 Description of Postretirement Medical Plans with Prescription Drug Benefits
      ⊞ Ⓐ Disclosure of Expected Gross Prescription Drug Subsidy Receipts [Abstract]
    □ Ⓐ Japanese Welfare Pension Insurance Law [Abstract]
        📄 Japanese Welfare Pension Insurance Law, General Description
        📄 Japanese Welfare Pension Insurance Law, Government Subsidy
        📄 Japanese Welfare Pension Insurance Law, Derecognition of Previously Accrued Salary Progression
    □ Ⓐ Adoption of SFAS 158, Employers' Accounting for Defined Benefit Pension and Other Postretirement Plans [Abstract]
        📄 Description of Change in Accounting Principle, SFAS 158
        📄 Recognition and Disclosure Provisions Adoption Date, SFAS 158
      ⊞ Ⓐ Application of Recognition Provisions of SFAS 158, Incremental Effects on Balance Sheet [Abstract]
      ⊞ Ⓐ Change in Measurement Date, SFAS 158 [Abstract]
    □ Ⓐ Deferred Compensation Arrangements [Abstract]
        📄 Deferred Compensation Arrangements, Overall, Description
      ⊞ 📄 Deferred Compensation Arrangement with Individual Disclosure, Postretirement Benefits [Text Block]
```

The first point to be made is that here also, there is a good number of concepts within the second level of detail (i.e., the count is not too high and not too low, in general). The exception to this is the first abstract concept "General Discussion of Pension and Other Postretirement Benefits [Abstract]". That concept has only one child. There are two ways to look at this. The first is, what is the point of one child? What does the category really add? But, another way to look at it is that no matter how many concepts a category has…it is a good thing to be consistent with the use of categorization and categories. For the UGT, the philosophy seems to be consistently used within some Networks, but not used in other Networks. For a taxonomy to be more user-friendly, we believe that it is important for there to be consistency throughout the taxonomy. Ensuring that the taxonomy is consistent will make it easier for preparers to create extensions to a taxonomy.

# 38 Disclosure – 740000 – Compensation Related Costs, Postretirement Benefits

This Network has only about 15 concepts relating to Postemployment Benefits related disclosures. There are no [Table]s, and this is rather straightforward. (click here to navigate to the taxonomy)

Note that the concept "Postemployment Benefits Liability, Noncurrent" is the same concept which appears on the balance sheet (see Network 104000).

39 Disclosure – 750000 – Other Income and Expenses

The Other Income and Expenses Network contains disclosures relating to other operating costs and expenses, nonoperating income and expenses, gains and losses on insured events, and advertising barter transactions. (click here to navigate to the taxonomy)
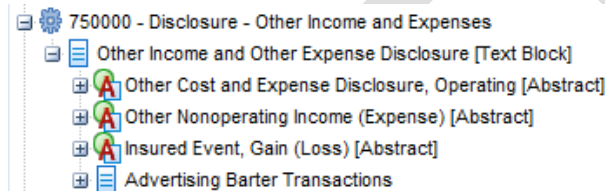
Three main [Table] structures make up the bulk of this disclosure. These are:

- Component of Other Operating Cost and Expense [Table]
- Component of Other Income, Nonoperating [Table]
- Component of Other Expense, Nonoperating [Table]

Each of these [Table]s has very similar characteristics. The [Table]s provide breakdowns of the components for which the [Table] is named. Each [Table] has an extensive list of [Member]s which is used to indicate the components which is being reported. Each [Table] has only one [Line Items] concept, the monetary value of the income statement line item which the preparer is reporting.

The UGT could have used Concepts to articulate what information which must be reported. (Note the discussion in section 2.6 Modeling Options, Syntax and Consistency for more details) However, we believe the [Table] approach is the better approach, as is used here, because it can consistently be used for providing detailed information.

## 39.1 TIP: An [Abstract] concept with only one child is potentially redundant.

Consider the screen shot below which shows one [Abstract] concept, which then has one child concept:
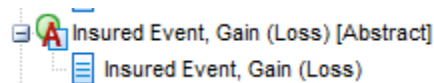
It is unclear as to what is being achieved by that [Abstract] concept since the concept cannot be reported within an interactive data report. If the concept were a [Text Block] or perhaps even a string of some sort where a narrative is provided and then the numeric concept is also provided and the two concepts go together, that could make sense. But the bottom line is that an [Abstract] concept with only one child concept does not really add any value. Not having such structures makes the taxonomy that much easier to read.

39.2 TIP: There is a difference between an [Abstract] concept, a [Text Block] concept, and a string concept.

There is a lot going on within a taxonomy, much of which a casual reader might not pick up on. Consider the following small set of disclosures information relating to advertizing barter transactions:
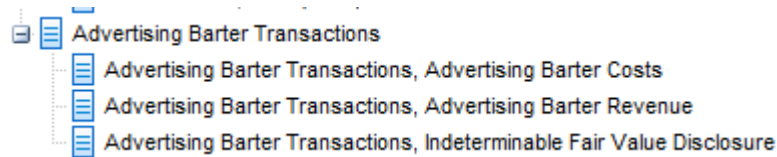
What this structure communicates is that there is information relating to "Advertising Barter Transactions" which needs to be disclosed. All of that information could be placed into the concept "Advertising Barter Transactions", which would most likely be some sort of narrative.

In addition, there are three additional disclosure items which could be provided separately. This seems optional because of the way the taxonomy is created. Had the parent concept been an abstract, which would require the user to provide the three detailed concepts.

But what if the parent concept were a [Text Block], what would that mean? That is really hard to say. The use of [Text Block]s in the UGT appears to be not consistent nor are the difference between an [Abstract] concept, a [Text Block] concept, and a normal string concept clearly explained.

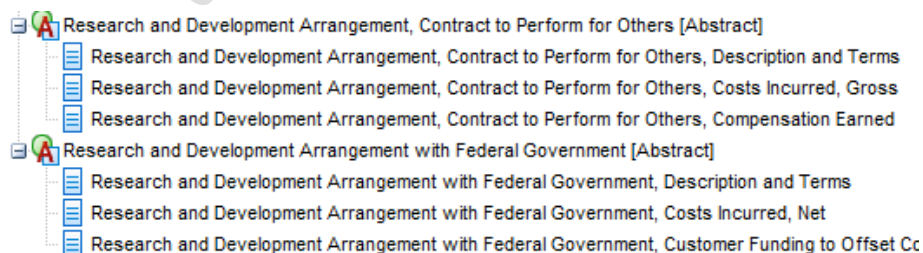# 40 Disclosure – 760000 – Research and Development

The Research and Development Network contains information relating to research and development and capitalized computer software costs. (click here to navigate to the taxonomy)

The Network is straightforward, containing several different types of structures.

40.1 TIP: Research and Development Arrangements most likely should be a [Table].

Consider the following screenshot: (click here to navigate to the taxonomy)

It is quite possible that an entity would have more than one research and development arrangement requiring disclosure; and therefore this concept and the two below it should

potentially be in a [Table] to provide for each possible such arrangement. The same is potentially true about research and development arrangements with the federal government. See the discussion about the difference between a [Table] and a [Hierarchy] in the Extraordinary and Unusual Items Network, number 778000 below for additional information about the differences.

If it is the case that an entity has multiple research and development arrangements and that each arrangement must be disclosed separately, depending on how the disclosure actually appears, the preparer could: (a) extend the taxonomy turning this structure into a [Table]; or (b) duplicate this set of concepts for each different arrangement. Creating the [Table] is probably the better choice.

41 Disclosure – 770000 – Income Taxes

The Income Taxes Network contains about 446 different relations and is one of the larger Networks in the UGT. A large number of these Relations involve very straightforward [Calculations], some of the [Calculations] being rather massive. (click here to navigate to the taxonomy)
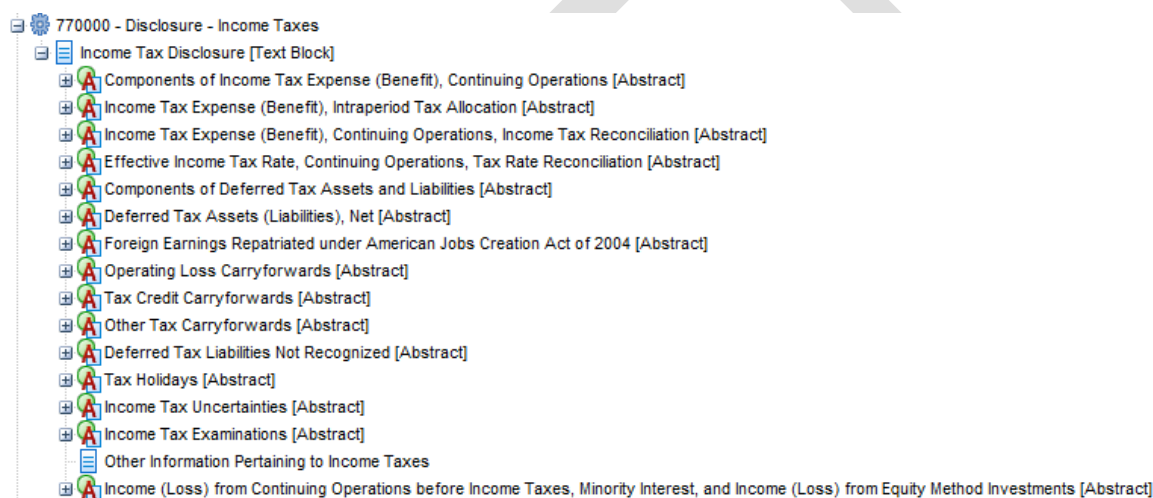
The other major grouping of components of this Network are [Table]s which provide detailed information.

Although Network is quite massive in size, it is very straight forward and easy to understand.

41.1 TIP: Income Tax Expense (Benefit), Continuing Operations has two different calculations separated in different Networks.

Note that in the UGT section below that "Income Tax Expense (Benefit), Continuing Operations" is broken out in two different ways: by current and deferred portion, and then by jurisdiction. (click here to navigate to the taxonomy)
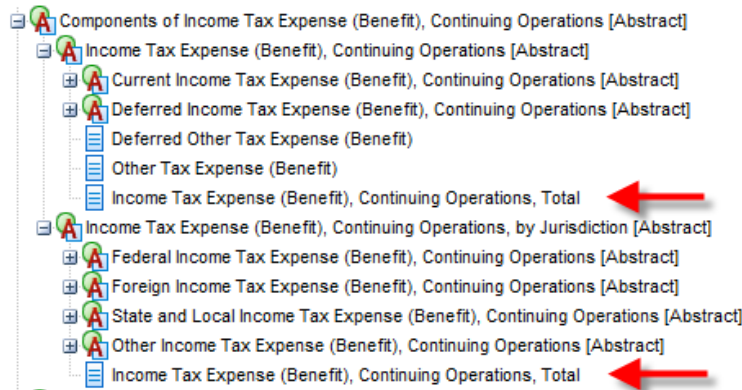
In the presentation relation view of the UGT it is not a problem that these two breakdowns exist within the same Network as the concept is used in two places and has no child concepts. If it did have child concepts, the child concepts would be the same in both locations the concept is used.

In calculation relations the concept "Income Tax Expense (Benefit), Continuing Operations" does have child concepts and the set of child concepts are different for the two different ways "Income Tax Expense (Benefit), Continuing Operations" is computed here.
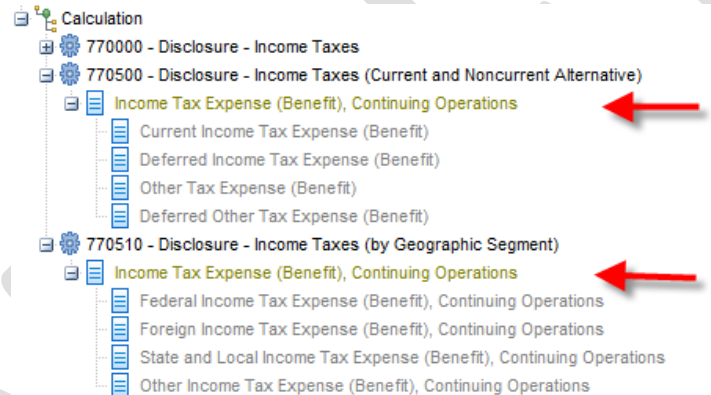
In the screen shot above, you can see that the Network numbers of the calculation links for these calculations are: (a) different than the presentation relations; and (b) physically in different Networks.

Each different way of computing a total must exist within a different Network. It is the separation by Network which keeps once calculation from colliding from another calculation.

Keep this in the back of your mind when you are looking for calculations, but they don't seem to exist where you might expect them to exist.

In the vast majority of cases the presentation relations and the calculation relations exist in the same Network name and number.

42 Disclosure – 775000 – Discontinued Operations and Disposal Groups

The Discontinued Operations and Disposal Groups Network contains disclosures relating to disposal groups. (click here to navigate to the taxonomy)

The network contains one single [Table] which is used to disclose details of information by disposal group. The [Line Items] of the [Table] are quite numerous, 98 in all. But the structure is rather simple.

[CSH: Christine, it is VERY hard for me to believe that all this information within this one table could all actually fit into one table correctly. Also, it is hard for me to believe that you would WANT all this stuff in one table. In particular, mixing the "Including Discontinued Operations" and "Not Discontinued Operations" just seems odd, although I will admit that I really don't understand exactly what is going on. Could be wrong about all this, could use your help filling me in on this. We should discuss this.]

43 Disclosure – 778000 – Extraordinary and Unusual Items

The Extraordinary and Unusual Items Network contains disclosures relating to extraordinary and unusual items, Unusual or infrequent items, and business interruption disclosures. (click here to navigate to the taxonomy)
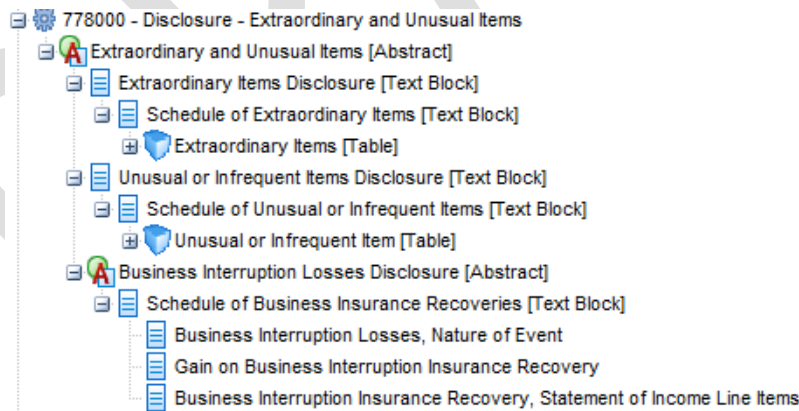
Each of these separate items is rather straightforward.

43.1 TIP: Cannot report more than one business insurance recovery.

Consider the following screenshot: (click here to navigate to the taxonomy)
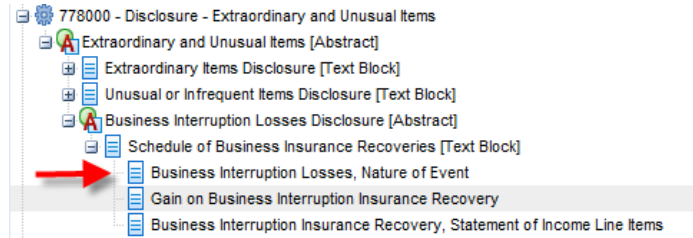
The UGT articulates this as a [Hierarchy], yet it potentially could be a [Set], allowing for multiple business interruption loss events to be reported. Contrast this to how extraordinary items and unusual or infrequent items are set up in the taxonomy as a [Table], allowing for any number of different extraordinary items or unusual or infrequent items.

The point here is to highlight choices made and the impact of the choice. The choice of how to model something within the taxonomy should be driven by what the desired outcome is. There is no magic here. Model something as a [Table] and it works one way. Model it as a [Hierarchy], it acts in a different way. If the choice in the taxonomy matches the desired outcome, then the taxonomy is modeled correctly. It is as simple as that.

If it is the case that an entity has business interruption losses and that each loss must be disclosed separately, then the user could: (a) extend the taxonomy turning this structure into a [Table]; or (b) duplicate this set of concepts for each different loss. Creating the [Table] is probably the better choice.

44 Disclosure – 780000 – Earnings Per Share

The Earnings Per Share Network contains disclosures relating to earnings per share. (click here to navigate to the taxonomy)
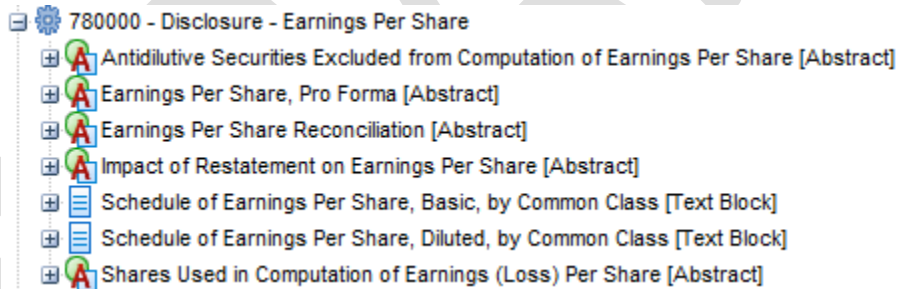
This Network contains a number of [Table]s, [Calculation]s, and [Hierarchy]s which are very straight forward.

44.1 TRAP: The Earnings Per Share Network contains seven root concepts. Your view may be different depending on the software application you are using.

As has been mentioned elsewhere in this document, XBRL has no standardized method for ordering root concepts of a Network. The Earnings Per Share Network has the most root concepts, numbering seven.

It would be quite easy to solve this issue, simply creating a concept such as "Earnings Per Share [Abstract]" and organizing these seven root concepts within that one concept in the desired order.

44.2 TRAP: The class of stock [Axis] per EPS does not match the Equity class of stock disclosures.

The [Axis] and [Domain] of the class of stock per the EPS and per the equity disclosures are different. This makes it impossible for a software application to match the classes of stock for EPS and other equity disclosures.

The following is a screen shot of the EPS disclosures for common stock:
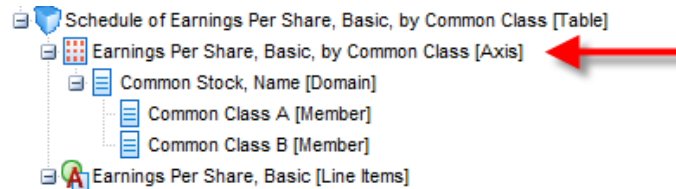
The following is a screen shot of the Equity disclosures for classes of common stock:
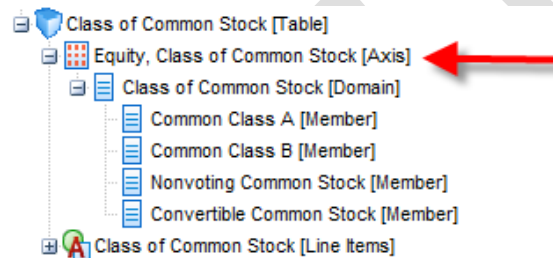
Note that this same situation exists for preferred stock, however the screen shots are not shown.

45 Disclosure – 790000 – Segment Reporting

The Segment Reporting Network contains disclosures relating to information by business segment, reconciling items between segment and consolidated information, and entity-wide information. (click here to navigate to the taxonomy)
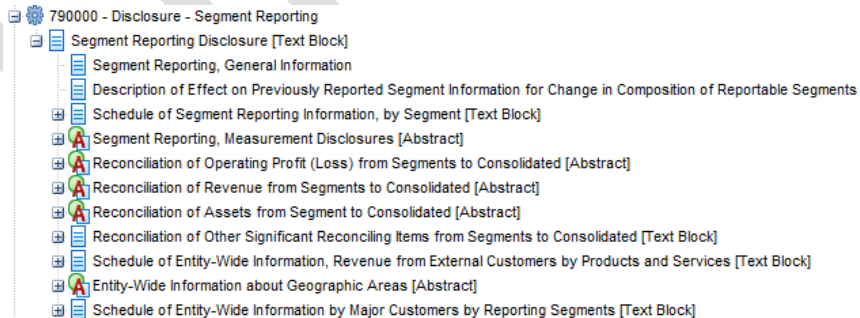
One major portion of the disclosure is the [Table] used to report segment information, by segment. Another major portion of this Network is four [Table]s used to reconcile segment information to consolidated information including operating profit (loss), revenues, assets, and other significant reconciling items.

45.1 TRAP: Look out for the "Segment Reporting Information, Interest Income (Expense), Net, Policy" buried within a [Calculation].

Here is another one of those very rare cases where a concept not involved within a computation is buried within a [Calculation]. See the screen shot below:
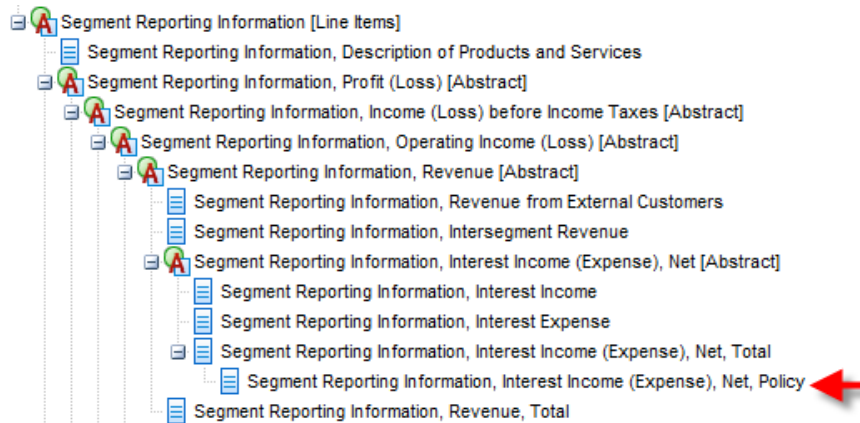
Again, this technically does not hurt anything, but it certainly breaks the flow of a [Calculation] making it harder for a software application to validate rules for enforcing the modeling pattern. An possible alternative way to model this would be to keep it out of the flow of the calculation, placing it just outside the calculation. This keeps the modeling pattern intact, allowing for validation rules to be clear and helpful to business users, and therefore allows for automated validation to detect this type situation where this type of relation is not wanted in the taxonomy. It will also be interesting to see how a rendering engine will treat this type of situation.

45.2 TRAP: Reporting segment [Axis] are different for the "Schedule of Segment Reporting Information, by Segment [Table]" and the "Schedule of Entity-Wide Revenues by Major Customers, by Reporting Segment [Table]".

Consider the following screen shot which shows the Schedule of "Segment Reporting Information, by Segment [Table]":
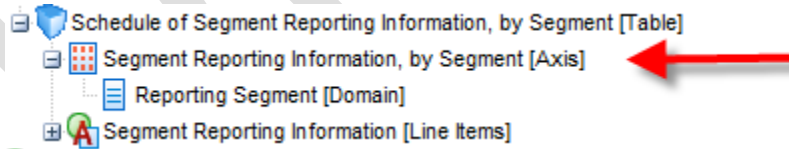
And here the screen show which shows the "Schedule of Entity-Wide Revenues by Major Customers, by Reporting Segment [Table]":
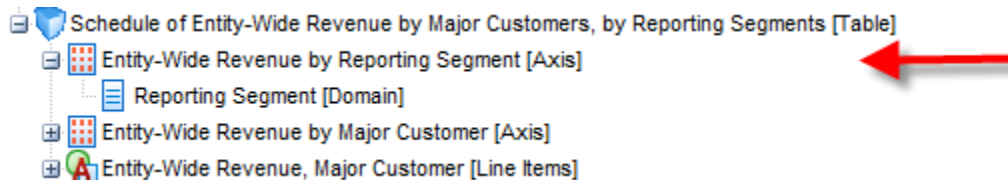
Notice that the "Reporting Segment [Domain]" is the same on both, however the [Axis] is different. It seems that the reporting segment is the reporting segment, regardless of the [Table] in which the information is being used.

The concepts can be used as is, but just realize this potential inconsistency exists. It will be harder for an analyst to put these two reporting segments together; it will have to be done manually as a computer cannot know that the two [Axis] express the same information.

46 Disclosure – 795000 – Statement of Cash Flows, Supplemental Disclosures

The Statement of Cash Flows, Supplemental Disclosures Network contains disclosures relating to the cash flow statement including noncash investing and financing activities. (click here to navigate to the taxonomy)
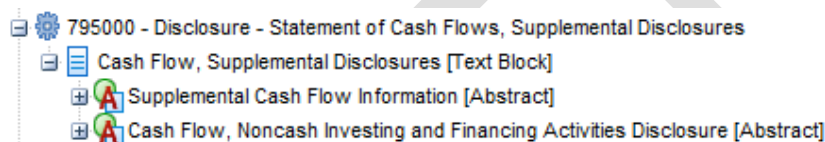
The Network contains mostly straight forward, individual concepts which need to be disclosed and six straight forward [Tables]:
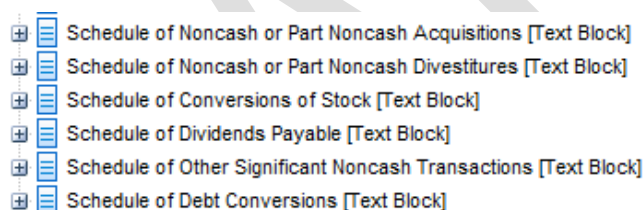
The [Table]s each have different [Set]s of information which are to be disclosed for the different types of information. There are a few [Calculation]s in the [Table]s. The [Set]s range from very small to reasonably large, but all straight forward.

46.1 TIP: Within the [Table]s, the different dates appear to be options.

It appears that the intension is that one of a number of date formats are to be selected and used; as opposed to reporting each date format. Consider the "Dividends Payable [Line Items] as an example (other [Table]s have similar situations):
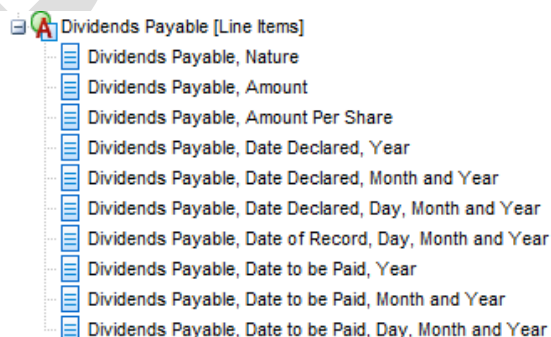
The three date declared and the date to be paid concepts appear to be options; not all three need to be provided. The data of record does not give you options, it requires a specific date format.

47 Disclosure – 800000 – Business Combinations

The Business Combinations Network contains disclosures relating to business acquisitions, business acquisitions using equity, business acquisitions with contingent consideration, the finite-lived intangible assets acquired as part of an acquisition, and leveraged buyout transactions. (click here to navigate to the taxonomy)
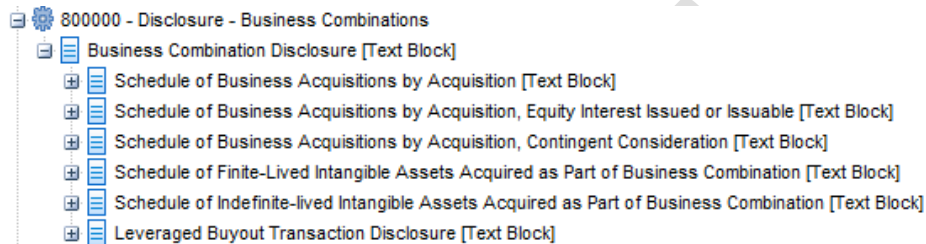
The Network contains five [Table]s and one other lone tree of relations. Of the five [Table]s, the first, "Schedule of Business Acquisitions, by Acquisition [Table]", is massive containing 106 [Line Items]. The vast majority of those [Line Items] are in the purchase price allocation which delineates the balance sheet of the business acquired. The other sections of that first [Table] and the other [Table]s are very straight forward.

The "Leveraged Buyout Transaction Disclosure [Text Block]" is the only non-[Table]. This contains a number of [Calculation]s and [Hierarchy]s, all of which are straight forward.

47.1 TIP: The "Business Acquisition [Axis]" can be used to pull information in the different [Table]s for the same acquisition together.

Consider the following screen shot of the [Table]s which relate to business acquisitions:
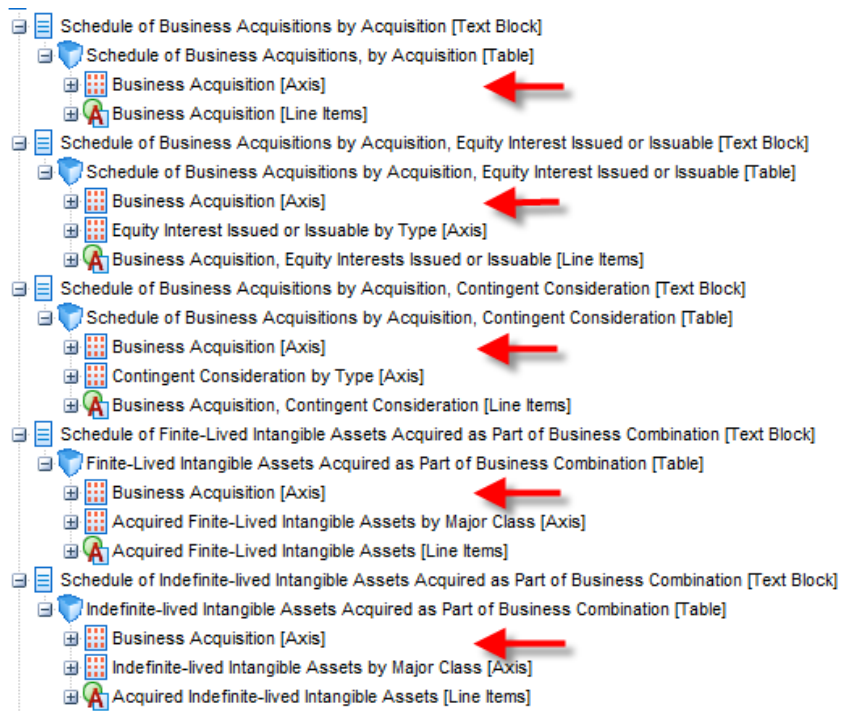
In particular, notice the "Business Acquisition [Axis]" which is shared by each of these [Table]s.

If you open the [Axis] and take a look at the [Domain] and [Member]s which exist, you will see that they are likewise shared between the [Table]s:
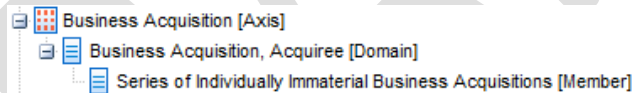
There are a number of important things to understand and think about when looking at these [Table]s separately and together. Also, this is a very good example of how other areas of the taxonomy work, and sometimes should or could work but do not.

- When a preparer creates the additional [Member] or [Member]s to articulate their business acquisitions, they should create one [Member] for each acquisition and then use that [Member] for each of these [Table]s (as opposed to creating a different [Member] for each acquisition for each [Table]).

- Notice how each of these [Table]s has the "Business Acquisition [Axis]" in common, but the other [Axis] are different for each [Table]. The first [Table] only has that single [Axis], the other five [Table]s each has a different [Axis]. This is because the [Table]s articulate different sets of information which require different [Axis] to be understood. For example, the "Equity Instruments Issued or Issuable by Type [Axis]" is needed to delineate the types of equity instruments used in the acquisition, of which there could be more than one; and the "Contingent Consideration by Type [Axis]" is used to articulate the types of contingent consideration, of which there could also be more than one type used. The [Axis] which the [Table]s have in common (the "Business Acquisition [Axis]" delineate which information is about which acquisition; but it can also be used to pull these [Table]s together.

- If a user tried to visualize each of these [Table]s together at the same type this would be challenging as the different [Table]s have different [Axis]. Now, this is slightly easier because the count of the [Axis] is the same, that characteristic can be leveraged. (Meaning, if they [Axis] count was wildly different, this would be harder.) It does not make a lot of sense to see the "Contingent Consideration by Type [Axis]" when looking at the "Infinite-lived Intangible Assets Acquired as Part of a Business

Combination". And you would not have to. A software application would "turn on" the [Axis] you need based on the data you desired to look at. Remember that one [Axis] of the data is the different business acquisitions. The measures (or primary items) which are articulated within the [Line Items] are really only another [Axis]. If you tell the software application which pieces of data you want to look at, it knows from the taxonomy which [Axis] it needs to use. Trying to look at too much at one time visually will look like a jumbled mess as you are asking the software to represent a three dimensional model in a two dimensional space. However, users can navigate between the different [Table]s via the "Business Acquisition [Axis]" which basically glues all the [Table]s together. [CSH: This is not explained very well, but it needs to be because it is key to getting people to realize how the taxonomy should be constructed as it is driven by how the users will want to use the data.]

- Imagine that some people felt that a [Table] like the first table for "Schedule of Business Acquisitions, by Acquisition [Table]" was too large, meaning that the 106 [Line Items] was just too much to pack into one [Table]. It is actually quite easy to, say, take the 106 concepts and break them up into four different [Table]s each with fewer concepts. You do this by simply creating three additional [Table]s and using exactly the same axes on each of those [Table]s. As long as the axes match, a preparer or analyst can reorganize the information however they desire; putting two [Table]s together or breaking one [Table] into two or more smaller pieces. As long as the axes match, everything will work fine. If the data is modeled correctly, it can be presented in any number of different ways to meet the needs of each individual user. It is the data model which must be agreed upon, not how the data should be presented.

[CSH: Christine, this is a PERFECT (and CORRECTLY created taxonomy fragment) example of what I have been trying to get across (the places where this is done INCORRECTLY). Take a look at this and now think "Class of Common Stock [Axis]" or "Class of Preferred Stock [Axis]" or "Reporting Entity [Axis]". Why is it that in other areas, EXACTLY the same thing has physically different [Axis] concepts; but here the EXACT same thing is represented by the SAME concept for the [Axis], the SAME concept for the [Domain], and the SAME concept for the [Member]s? Why is one technique used here, and a different technique used in other places to achieve what amounts to EXACTLY the same thing? Maybe the data represented is different, but the relation between the different pieces of data is, in fact, EXACTLY the same.]

48 Disclosure – 802000 – Reorganizations

The Reorganizations Network contains disclosures relating to reorganizations under chapter 11 of the US Bankruptcy Code. (click here to navigate to the taxonomy)

```
802000 - Disclosure - Reorganizations
    Reorganization under Chapter 11 of US Bankruptcy Code Disclosure [Text Block]
        Bankruptcy Proceedings [Abstract]
        Plan of Reorganization [Abstract]
        Bankruptcy Claims [Abstract]
        Debtor-in-Possession Financing [Abstract]
        Financial Statement Presentation While in Chapter 11 [Abstract]
        Reorganization Items Disclosures [Abstract]
        Fresh-Start Balance Sheet [Abstract]
        Reorganization Value Disclosures [Abstract]
        Significant Matters Unresolved Since Bankruptcy Emergence
```

Note that most all of the categories above separated with [Abstract] concepts whereas a [Text Block] would likely be better, allowing users to report smaller chunks of data (i.e. as compared to putting everything into one large text block using the concept "Reorganization under Chapter 11 of US Bankruptcy Code Disclosure [Text Block]".

Of the 366 total relations in this network, 214 exist in the "Fresh-Start Balance Sheet [Abstract]" relationship tree. This section is very straight forward, comprised of a number of [Calculation]s.

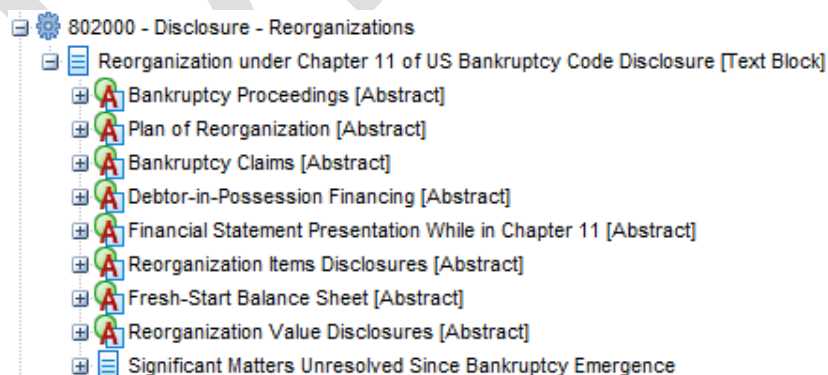The remaining sections contain a small number of [Calculation]s and [Hierarchy]s, all being quite straight forward.

48.1 TRAP: Concept "Reorganization Items, Description of Provision for Expected Allowed Claims" appears out of place.

Consider the following screenshot:
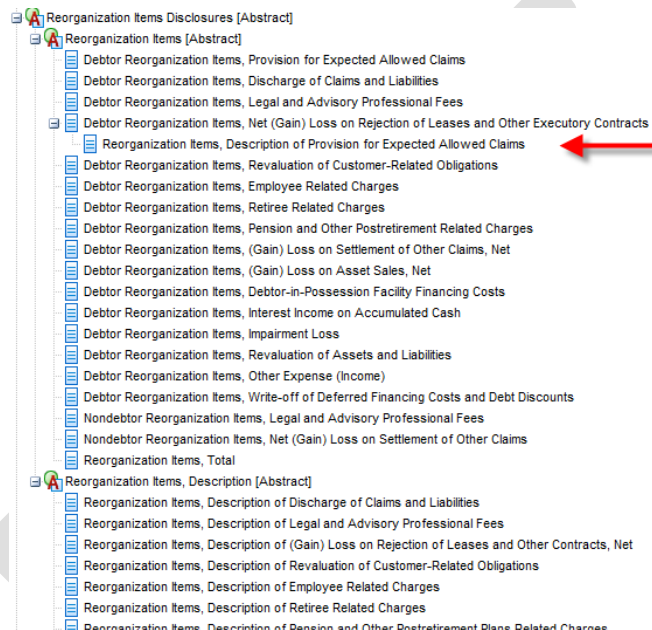
Note the concept next to the arrow. The concept appears to be out of place for two reasons. First, the beginning part of the label is more similar to the concepts in the hierarchy toward the bottom of the list. Second, generally other relations within this Network are somewhat flat, this child being an exception. Third, as pointed out in other places, having one child concept makes little sense.

No work around is likely necessary, except for perhaps moving the concept to the lower list, if it in fact relates to that list of concepts.

What appears to be going on though is that the concepts are a [Calculation] with one string concept lingering within the [Calculation] making it look rather odd. This also breaks the general pattern of a [Calculation]. This concept might be better organized just outside this tree of relations.

49 Disclosure – 805000 – Derivative Instruments and Hedging Activities

The Derivative Instruments and Hedging Activities Network contains disclosures relating to such disclosures. (click here to navigate to the taxonomy)
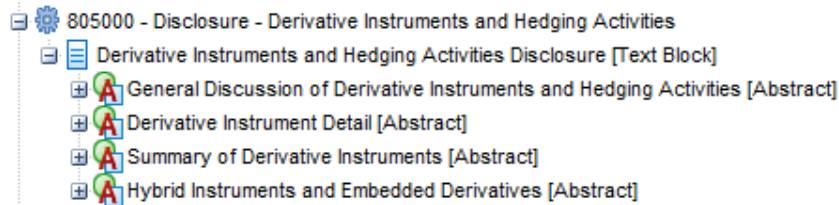
This Network is one of the largest in the commercial and industrial entry point of the UGT with approximately 583 relations and potentially most complicated to read due to the variety of structures within this Network. Two main fragments contain most of the relations. The first is "Summary of Derivative Instruments [Abstract]" with 449 relations. The second is "Derivative Instrument Detail [Abstract]" with 103 relations.

The spectrum of modeling patterns is represented within this Network.

49.1 TRAP: Both too much hierarchy and not enough hierarchy potentially causes problems.

Consider the screen shot below:
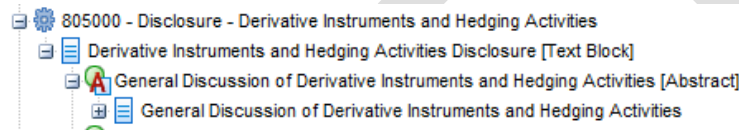
Note the abstract concept which begins "General discussion…" and then right after it is a string concept of exactly the same name, except for the "[Abstract]" portion appended to the end. The abstract concept really is not necessary.

Consider this screen shot which details what is contained within the "Derivative Instrument Detail [Abstract]" tree of relations from above:
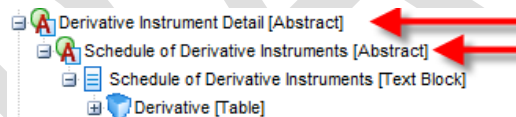
Note that there are two nesting levels, each of which has only one relation. Another way to explain this is to explain how this could have been created. What if the concept "Schedule of Derivative Instruments [Text Block] was kept, but the other new concepts and relations deleted. How would the UGT be worse off if this were the structure? Well, nothing really would be lost from removing those two upper level abstract concepts. So, why are they necessary? They really are not necessary.

The above is an example of how too much hierarchy can potentially be undesirable. Next, we use that same table to show how too little hierarchy might also be undesirable.

Consider this screen shot of the [Line Items] of that same [Table]:

```
─ Ⓐ Derivative Instrument Detail [Abstract]
   ─ Ⓐ Schedule of Derivative Instruments [Abstract]
      ─ ▤ Schedule of Derivative Instruments [Text Block]
         ─ 🛡 Derivative [Table]
            ⊞ ▦ Derivative, by Nature [Axis]
            ─ Ⓐ Derivative [Line Items]
               ⊞ 📁 [1..50]
               ─ 📂 [51..65]
                  ▤ Derivative, Average Foreign Currency Option Strike Price
                  ▤ Derivative, Exchange Rate Cap
                  ▤ Derivative, Average Exchange Rate Cap
                  ▤ Derivative, Exchange Rate Floor
                  ▤ Derivative, Average Exchange Rate Floor
                  ▤ Derivative, Forward Price
                  ▤ Derivative, Average Price Risk Option Strike Price
                  ▤ Derivative, Cap Price
                  ▤ Derivative, Average Cap Price
                  ▤ Derivative, Floor Price
                  ▤ Derivative, Average Floor Price
              ⊞ ▤ Derivative, Swap Type
                  ▤ Derivative, Price Risk Option Strike Price
                  ▤ Derivative, Average Forward Price
            ⊞ Ⓐ Derivative Instruments Not Designated as Hedging Instruments [Abstract]
```

Here we see so little structure that the application used to render the [Line Items] wants to break that long list into a few different chunks so it can better handle the large number of relations. See the trees which look like folders above. The one marked [1..50] has the first 50 relations of the [Line Items], the one marked [51..65] which is expanded has the balance of the [Line Items].

In the portion of that section just below the [Line Items], we see this structure which has lots of concepts, but also lots of structure to avoid the flat list of relations we have above.


```
─ Ⓐ Summary of Derivative Instruments [Abstract]
   ⊞ Ⓐ Summary of Derivative Instruments Impact on Results of Operations [Abstract]
   ⊞ Ⓐ Derivative Assets (Liabilities), at Fair Value, Net, by Balance Sheet Classification [Abstract]
   ─ Ⓐ Summary of Derivative Instruments by Hedge Designation [Abstract]
      ⊞ Ⓐ Summary of Fair Value Hedge Activity [Abstract]
      ⊞ Ⓐ Fair Value Hedges at Fair Value, Net, Total [Abstract]
      ⊞ Ⓐ Summary of Cash Flow Hedge Activity [Abstract]
      ⊞ Ⓐ Cash Flow Hedges Derivative Instruments at Fair Value, Net [Abstract]
      ⊞ Ⓐ Other Derivatives Not Designated as Hedging Instruments at Fair Value, Net, Total [Abstract]
      ⊞ Ⓐ Cash Flow Hedge Gain (Loss) Reclassified to Revenue, Net [Abstract]
      ⊞ Ⓐ Cash Flow Hedge Gain (Loss) Reclassified to Investment Income, Net [Abstract]
      ⊞ Ⓐ Cash Flow Hedge Gain (Loss) Reclassified to Other Income, Net [Abstract]
      ⊞ Ⓐ Cash Flow Hedge Gain (Loss) Reclassified to Cost of Sales, Net [Abstract]
      ⊞ Ⓐ Cash Flow Hedge Gain (Loss) Reclassified to Interest Expense, Net [Abstract]
      ⊞ Ⓐ Cash Flow Hedge Gain (Loss) Reclassified to Other Expense, Net [Abstract]
      ⊞ Ⓐ Cash Flow Hedge Gain (Loss) Reclassified to Earnings, Net [Abstract]
      ⊞ Ⓐ Derivative Instruments in Hedges, at Fair Value, Net [Abstract]
      ⊞ Ⓐ Summary of Net Investment Hedge Activity [Abstract]
      ⊞ Ⓐ Net Investment Hedge Derivatives at Fair Value, Net, Total [Abstract]
```

There is no one right or wrong answer. The appropriate structuring depends on the situation. Similar situations, however, should have similar taxonomy structures. This adds value in helping the user of the taxonomy to understand that particular area of the taxonomy, by contrasting it to other similar areas which they may better understand.

49.2 *TRAP: Calculation with nested strings.*

The screen shot below shows two [Calculation] structures. First, take a look at the structure at the very bottom of the screen shot. This articulates the [Calculation] for "Derivative, Gain (Loss) on Derivative, Net":
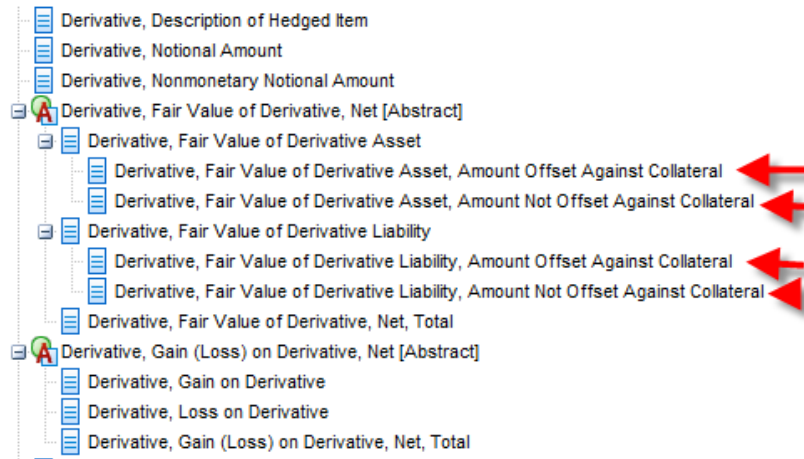
The [Calculation] structure just above this also articulates a computation, for "Derivative, Fair Value of Derivative, Net". Notice the string concepts embedded within this fairly straight forward computation, forcing the user to at least to do a double take to figure out what is going on. It seems as though these four concepts could have easily been placed just after the [Calculation] structure and as a sibling to the [Abstract] concept which holds the [Calculation] structure. This would allow for a more logical flow, for the [Calculation] modeling pattern to have fewer exceptions to its construction rules, therefore fewer undesired exceptions, easier to use software because of the better rules caused by the fewer exceptions to the rules. There is little, if any, downside to moving these four concepts only slightly.

50 Disclosure – 815000 – Fair Value Measures and Disclosures

The Fair Value Measures and Disclosures Network contains disclosures relating to deferral of SFAS 157 by an entity, information on fair value by balance sheet line item grouping, off-balance sheet risks, fair value options, information relating to when fair value estimates are not practicable, risk concentrations, and fair value measurement inputs . (click here to navigate to the taxonomy)
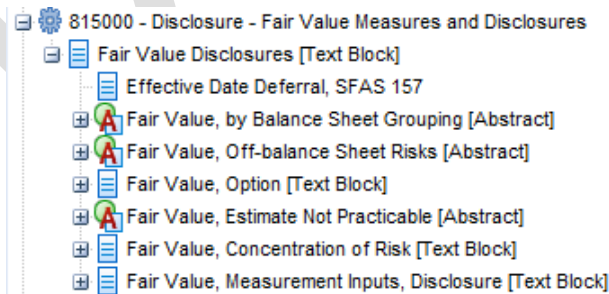

This is the second largest Network within the Commercial and Industrial entry point with 640 relations within the Network. The largest section is "Fair Value, Measurement Inputs, Disclosure [Text Block]" with 211 relations. All the other sections average around about 50 or so relations.

For the size of this Network, it is very well organized and rather simple to understand. There are a bunch of areas which look like they might be (or should be) [Calculation]s, but they are [Hierarchy]s as they do not have any computations. There are a couple of [Roll Forward]s.

All in all, this Network is fairly straight forward.

50.1 TIP: When to use [Text Block] and [Abstract]?

Consider the following screen shot noting the use of [Text Block]s and [Abstract]:
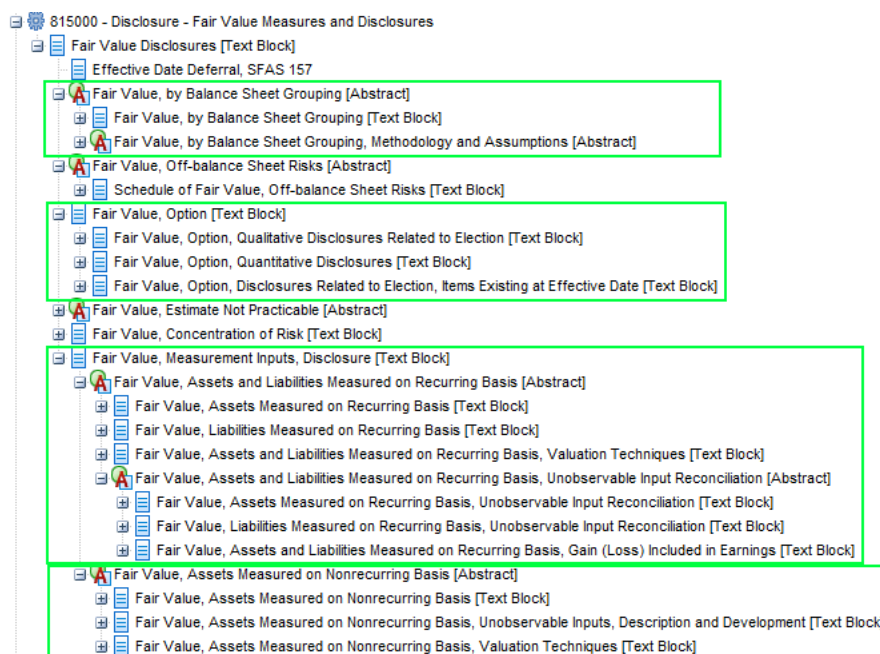
The use of [Text Block] or [Abstract] appears somewhat random. The most logical seems to be the second green box where everything is a [Text Block]. It looks the most straight forward, all the sections can be used if needed, or the upper level grouping could be used. There are more options.

51 Disclosure – 820000 – Foreign Operations and Currency Translation

The Foreign Operations and Currency Translation Network is just as the name implies and the structures are rather straightforward. (click here to navigate to the taxonomy)

52 Disclosure – 830000 – Leases, Operating

The Leases, Operating Network contains disclosures relating to operating leases of lessees and lessors. This Network is very straight. (click here to navigate to the taxonomy)

## 52.1 TIP: This Network is extremely well organized.

The Leases, Operating Network is an example of a very well organized Network. Relations are very consistent, the levels within the tree structure are quite logical, and overall the Network is easy to read/navigate.

## 52.2 TIP: No numbers from this Network ties to any other part of the taxonomy.

You can look at Networks falling into one of two categories: those that tie to other parts of the taxonomy and those that do not. In the case of this Network, nothing physically ties to the balance sheet, income statement, or other part of the primary financial statements.

52.3 TRAP: The Major Property Classes [Axis] in the operating leases disclosure is different than the Property, Plant and Equipment by Type [Axis] within PPE disclosures. Also, the term "Type" and "Class" seems to be used interchangeably.

There are a number of different breakdowns of property, plant, and equipment and the details seems to sometimes use the term "class" and at other types use the term "type". The following is the major classes per the operating leases disclosures:
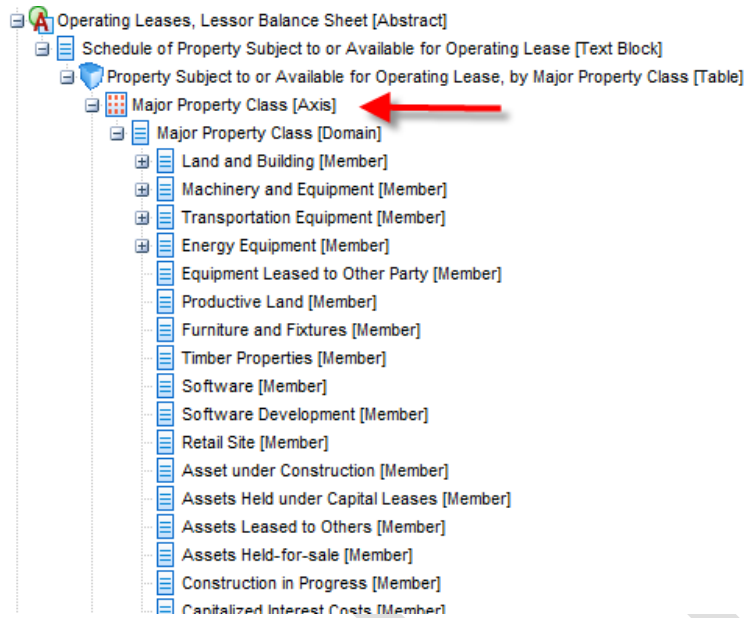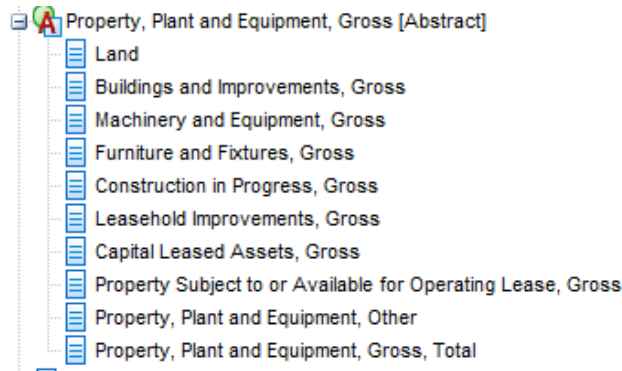
This is the breakdown per the PPE disclosures:
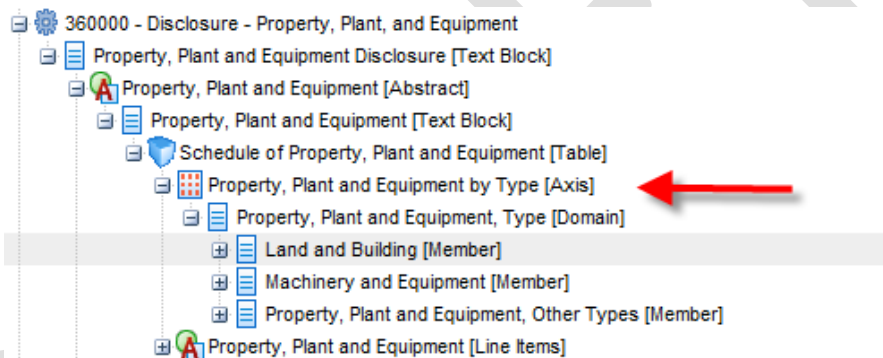
Next, we see the breakdown in the capital leases disclosures:

And finally the breakdown of PPE from the balance sheet:

There are two questions relating to these different representations of what one could reasonably conclude could be more similar than different:

1. What are the pros and cons of having different [Axis]s and [Domain]s? Many of the [Member]s are in common in these [Axis] breakdowns. Although, the lists are not exactly the same, nor are they expected to be exactly the same. The issue here relates to the [Axis]s and [Domain]s. The [Member]s just show indicate the similarity of the different lists.

2. Is there some sort of rational relating to why the lists of [Member]s are different? For example, Transportation and Energy Equipment exist in one listing, but not in others.

53 Disclosure – 833000 – Leases, Capital

The Leases, Capital Network contains disclosures relating to capital leases for lesses and lessors. The Network is quite straightforward with no real surprises. There are a handful of textual type disclosures and a number of smaller to medium sized [Calculation]s. (click here to navigate to the taxonomy)

53.1 TIP: The meaning of nesting relations.

Consider the following screen shot relating to the indemnification agreements of capital leases.


Why is the concept "Capital Leases, Indemnification Agreements, Payments" a child of "Capital Leases, Indemnification Agreements, Description" as opposed to being a sibling?

The answer seems to be something like the following. Child concepts generally have some sort of tight relationship with a parent. In this case, perhaps, the "Payments" could be within the "Description" concept, or it could be provided separately.

What is the marginal value of nesting a concept as opposed to providing it as a sibling to another concept? Ask yourself this type of question. Generally, there is usually a good reason why something is a child as opposed to a sibling.

## 53.2 TIP: The value of the UGT beyond simply reporting to the SEC.

Remember back to when you were in your accounting classes, trying to understand what the present value of minimum lease payments was. Take a look at the screen shot below. Now, it may be a little hard to read because the calculation is not expressed in a format which is familiar or even comfortable to an accountant. Eventually, software will improve these presentations and users will also become more comfortable with some of these presentations which appear somewhat "funky" today.
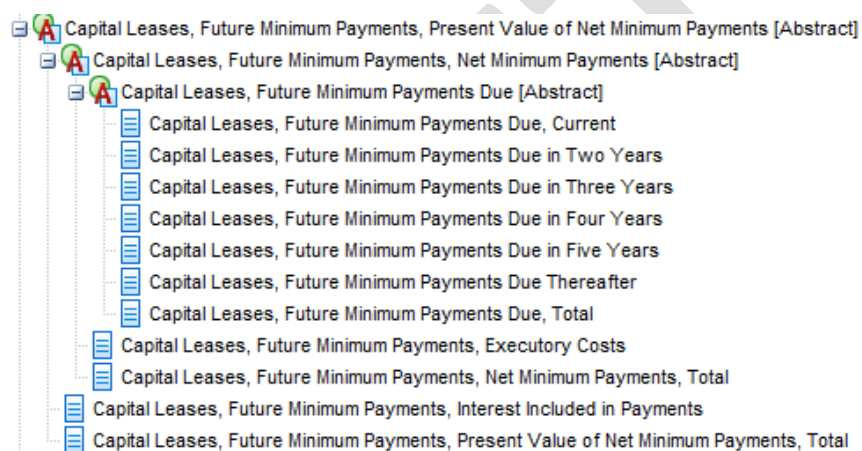
But consider what you really have here. The UGT lays out not only this computation, but hundreds of other computations. I doubt that every accountant can rattle off all these relations from the top of their head. Granted, there are some that can do that. But for the mere mortal accountants who struggle to keep up on all of this, how good is the UGT as a reference for the computation of the present value of net minimum payments under capital leases? And for other computations? It cannot be beaten! Even if you don't have to report using XBRL, it seems like a great reference tool and learning tool.

54 Disclosure – 836000 – Leases, Sale and Leaseback

The Leases, Sales and Leaseback Network contains disclosures relating to such sale and leaseback type leases. The Network is quite straightforward with no real surprises. There are a handful of textual type disclosures and a number of smaller to medium sized [Calculation]s. (click here to navigate to the taxonomy)
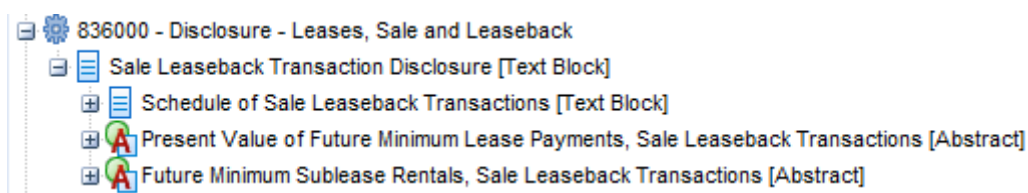
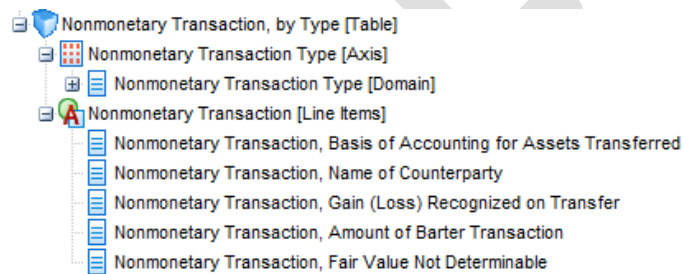## 55 Disclosure – 840000 – Nonmonetary Transactions

The Nonmonetary Transactions Network contains one [Table] which is used to disclose information relating to nonmonetary transactions. Alternatively, the [Text Block] could be used. (click here to navigate to the taxonomy)

Nonmonetary Transactions is a great example of a set, which will be discussed in the next tip.

55.1 TIP: Nonmonetary transactions is a very good example of a [Set].

Consider the following screenshot: (click here to navigate to the taxonomy)

This is a simple, clear example of a [Set]. A reporting entity may have zero, one, or many nonmonetary transactions. The [Table] is set up to enable preparers to disclose nonmonetary transactions by transaction type, as denoted by the "Nonmonetary Transaction Type [Axis]".

The [Domain], "Nonmonetary Transaction Type [Domain]" would allow the preparer to articulate the total of all nonmonetary transactions. The [Members] (children of the [Domain]) provide a list of the types of nonmonetary transactions. If the preparer has a different type than the list of [Member]s, they could extend the taxonomy for that other type.

There are five pieces of information required to be disclosed for each nonmonetary transaction type - they are all children of the [Line Items] concept.

All other [Table]s are really variations of this general theme. They may have different [Axis], [Domain]s, and [Member]s; and they may have different sets of [Line Items] and larger number of line items, but they would all work similar to this [Table].

56 Disclosure – 845000 – Related Party Disclosures

The Related Party Disclosures Network contains one single [Table] which is used to report related party transactions. Or, alternatively, a preparer could use the [Text Block] and put all related party transactions within that one single [Text Block]. Here is the tree of this [Table] with the [Line Items] expanded. (click here to navigate to the taxonomy)
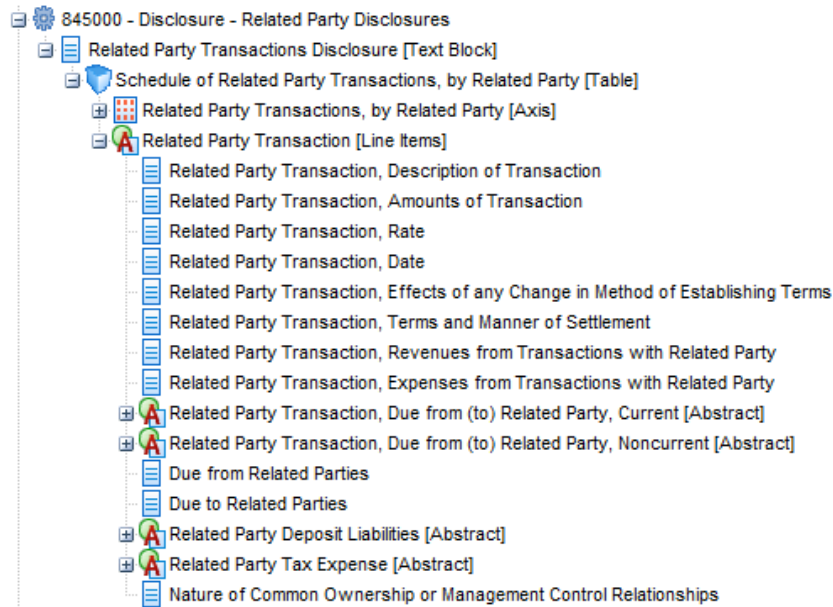
56.1 TIP: If the [Text Block] were inside the [Table], then the [Table] could be used to report one [Text Block] for each related party transaction.

As the taxonomy is structured now, the [Text Block] concept is used to tag the entire Related Party note. This is fine. But another approach to structuring the [Table] might be to put the concept "Related Party Transactions Disclosure [Text Block]" within the [Table]. What that would mean is that each related party transaction would be placed within a [Text Block], or all transactions could still be reported combined. This can be achieved by assigning a different [Axis] to the [Text Block] which can be done because, being in the [Table], the axes would relate to that concept. We note that the axis line item concept "Related Party Transaction, Description of Transaction" provides text to describe the transaction, and its sibling line item concepts quantify it and disclose additional facts necessary for a user to understand it.

The point here is to simply highlight the difference between concepts inside a table and concepts outside a table.

57 Disclosure – 865000 – Transfers and Servicing

The Transfers and Servicing Network contains disclosures relating to transfers and servicing of financial assets, financial assets pledged as collateral, and the accounting for certain loans and debt securities acquired in transfers. (click here to navigate to the taxonomy)

This is one of the more massive Networks containing approximately 406 relations. Of that total number of relations, 225 exist within the "Transfers and Servicing of Financial Assets [Abstract]" concept and 130 exist within the "Accounting for Certain Loans and Debt Securities Acquired in Transfer Disclosure [Text Block]".

None of the structures are really that complicated. What makes this seem a bit complicated is its large size.

57.1 TRAP: The upper level concepts are rather confusing.

Don't make the mistake of misunderstanding entry points to the UGT. An entry point is NOT a taxonomy you will use when creating your interactive data filing. An entry point is basically documentation of a section of the taxonomy, a collection of networks which are applicable to a specific industry or activity.

57.2 TIP: The fragment "Accounting for Certain Loans and Debt Securities Acquired in Transfer Disclosure [Text Block]" duplicates what exists in Network 330000 Investments, Debt and Equity Securities".

Definition relations in the UGT are always consistent with the presentation networks as they are auto generated from the presentation network. Business users should never have to create a definition network or edit a definition network. Software should auto-generate the definition network relations because they can. If your software does not do this, ask your software vendor why it does not.

57.3 TRICK: Preparers can create an internal version of the UGT networks which they can use for preparing their filing, but file using the UGT.

It can be a lot easier to create and maintain a taxonomy which is used internally to create your financial filings, but then file with the UGT. Software vendors can make the process for converting from your internal version to the actual filed version transparent to the creators. This can be as simple as having an "on" or "off" switch on certain relations so you are not bothered by the thousands of relations you do not use, allowing you to focus on the relations and concepts which you do use.


58 Disclosure – 870000 – Subsequent Events

The Subsequent Events Network contains one [Table], plus the related [Text Block], which contains a [Set] of concepts all relating to each subsequent event. In addition there is one other concept which is not within the [Table]. (click here to navigate to the taxonomy)
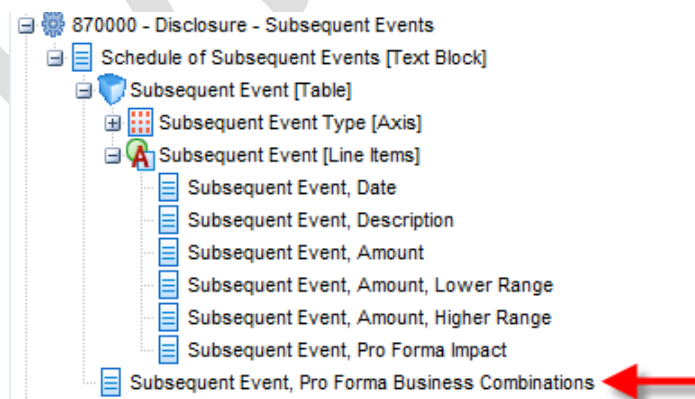
This Network is very straightforward.

59 Disclosure – 910000 – Contractors

Included in the Contractors Network is a number of [Hierarchy]s and [Calculations] relating to contract accounting and program disclosures. There are no [Table]s in this Network. (click here to navigate to the taxonomy)
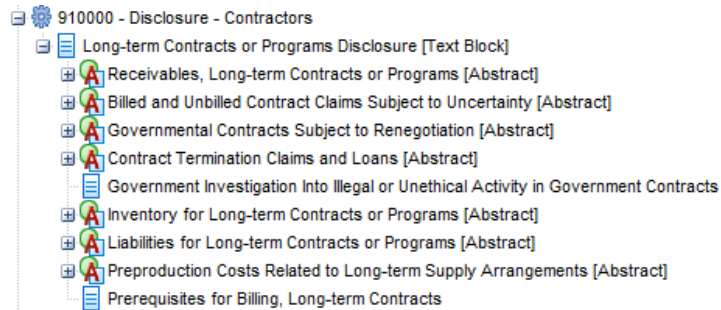
59.1 TRAP: *There is one narrative type disclosure buried within a calculation.*

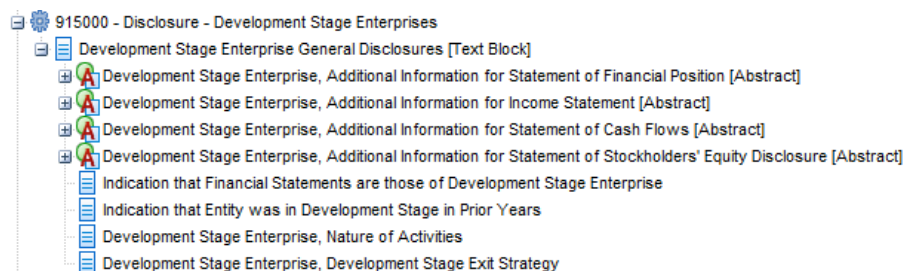Consider the following screenshot: (click here to navigate to the taxonomy)
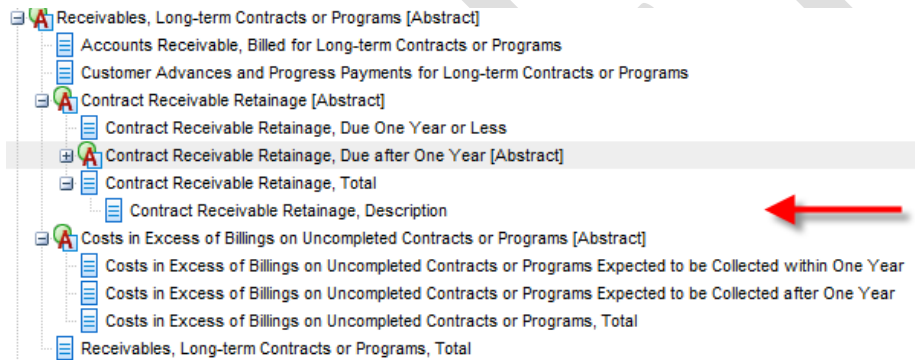
If you look at this structure it is basically all monetary concepts which are involved within a number of nested [Calculation]s. But buried within all the [Calculation] is one string concept, "Contract Receivable Retainage, Description". This does two things which might not be desirable. First, it breaks up the flow of the calculation. Second, it breaks up the "shape" of that structure of the taxonomy, making it more difficult to render in an acceptable manner.

Another logical option could have been to put the narrative about the receivable retainage just outside the [Calculation] structure, probably just below it.

60 Disclosure – 915000 – Development Stage Enterprises

Included in the Development Stage Enterprises Network are disclosures which a development stage enterprise would use. There is one [Table] which is used to disclose information relating to equity instruments issued since the inception of the company which is basically the [Set] of information required for those equity instruments. (click here to navigate to the taxonomy)

```
☐ ⚙ 915000 - Disclosure - Development Stage Enterprises
   ☐ ▤ Development Stage Enterprise General Disclosures [Text Block]
      ☐ Ⓐ Development Stage Enterprise, Additional Information for Statement of Financial Position [Abstract]
      ☐ Ⓐ Development Stage Enterprise, Additional Information for Income Statement [Abstract]
      ☐ Ⓐ Development Stage Enterprise, Additional Information for Statement of Cash Flows [Abstract]
      ☐ Ⓐ Development Stage Enterprise, Additional Information for Statement of Stockholders' Equity Disclosure [Abstract]
         ▤ Indication that Financial Statements are those of Development Stage Enterprise
         ▤ Indication that Entity was in Development Stage in Prior Years
         ▤ Development Stage Enterprise, Nature of Activities
         ▤ Development Stage Enterprise, Development Stage Exit Strategy
```

This Network is rather straightforward.

A About the Authors

Charles Hoffman, CPA

Charles Hoffman is credited as being the "father of XBRL." Charlie, a member of the American Institute of Certified Public Accountants (AICPA), brought the idea of what was to become XBRL to the AICPA. Charlie is author of the books "XBRL Essentials", a non-technical guide to XBRL and "Financial Reporting Using XBRL: IFRS and US GAAP Edition", a comprehensive guide to using XBRL in financial reporting. He was co-editor of the first XBRL taxonomy. He is playing a major role in creating the taxonomy for financial reporting under International Financial Reporting Standards (IFRS-GP).   He is a member of the XBRL International Specification and Domain working groups. Charlie is co-author of the "Financial Reporting Taxonomies Architecture" (FRTA) 1.0 specification, the "Financial Reporting Instance Standards" and a significant contributor to the XBRL 2.1 specification.

Charlie is also co-editor of the US GAAP Taxonomy Architecture and was part of the team which expressed US GAAP within XBRL for financial reporting by public companies which was funded by the US Securities and Exchange Commission.

Prior to his involvement with XBRL, Charlie served as an auditor for what was then Price Waterhouse, as financial officer for a number of companies, and as an accounting software implementation consultant. In 1997, Charlie was the recipient of the AICPA Innovative User of Technology award. He was named by Accounting Technology as one of the one hundred most influential people in the accounting profession. Charlie is Director of Innovative Solutions for UBmatrix LLC.

Charlie is a graduate of Pacific Lutheran University with both a BA in Business Administration with a concentration in accounting and an MBA with a focus on management information systems and world class manufacturing techniques. In 2007 he received the "Distinguished Alumnus Award" from PLU for his efforts to help create XBRL.

Christine Tan, PhD

Christine Tan is a university professor of accounting and has taught at The University of Melbourne, Baruch College – City University of New York, New York University, and the Melbourne Business School. Christine has consulted with governments, industry and business organization executives on matters pertaining to financial reporting and financial analyses. Her research has been published in leading accounting journals and presented at conferences around the world. She also spent thirteen months serving as a principal member of the core team at XBRL US that designed, reviewed, and edited the presentation and calculation views (including those for tables), of the reporting elements, note disclosures and statements comprising the US GAAP taxonomies issued on April 28, 2008. Christine is currently an Assistant Professor in Accounting at Fordham University and a Principal of Tag-IT Financial Tagging