FASB US GAAP Financial Reporting Taxonomy
Architecture

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1 Introduction

The purpose of this document is to detail the architecture of the US GAAP Financial Reporting Taxonomy. The document also explains the design rationale and how the architecture satisfies stakeholder requirements. The intended audience of this document is a technical user familiar with XBRL, other specifications and modules of XBRL, XML Schema and XSLT stylesheets, etc. It is not intended as a tutorial. Business users may be interested in this document and it is written such that a business user familiar with the technologies (XBRL, XML Schema, XSLT, etc) will be comfortable with this document.

The goal of this document is to define logical models, physical models, and design rules that satisfy the US GAAP Financial Reporting Requirements. The models satisfy anticipated uses of the US GAAP Financial Reporting Taxonomy Architecture based on roles defined in the US GAAP Financial Reporting Requirements document. These roles include preparers, corporate investors, regulators, standard setters, software vendors and XBRL-US.

1.1 Arriving at and Expressing Architecture

The US GAAP Financial Reporting Taxonomy Architecture is the product of the Taxonomy Architecture Group (TAG) arrived at through a process of deliberation that also relied on the following supporting documentation and technical artifacts produced within the US GAAP Financial Reporting Taxonomy project:

1. The US Financial Reporting Taxonomy Framework (USFRTF) Style Guide [STYLE] provides grammatical and formatting guidance to ensure that components of the US GAAP Financial Reporting Taxonomy are developed in a consistent manner.

2. The UGT Patterns Guide [PATTERNS] helps train a subject matter expert (SME) contributing to the US GAAP Financial Reporting Taxonomy in the necessary modeling skills: It serves to create similar components consistently, understand how to create specific types of components, and serves as a "cookbook" and best practices guide to creating and extending taxonomies and creating sample instance documents from those taxonomies in order to test them.

3. The US GAAP Financial Reporting Taxonomy Requirements [REQ] defined the content scope, stakeholders, users, user goals, use cases, functional requirements, technical requirements and design goals.

4. The UGT Prototype Taxonomy is a set of XBRL 2.1 schemas, linkbases and instances conforming to the architecture's physical model, containing as much detail as possible and covering some known challenging types and areas of financial reporting to ensure the architecture operates as expected. It is a prototype in the sense that it does not commit to any specific financial reporting content.

5. The internal draft, UGT Choices, documents the results of a joint effort with the US domain working group to better understand the interaction of reporting requirements with the various design options available to the TAG and to recommend design directions.

6. Working documents detailing alternative approaches to the design challenges of Narratives [NARR] [TUPLE], Extensibility and Versioning as identified in [REQ].

(Section 7 below provides web locations for the referenced documents where publicly available).

The US GAAP Financial Reporting Taxonomy Architecture follows rules defined by XBRL International recommendations. Adherence to these recommendations ensures that taxonomies using the Architecture are fully XBRL 2.1 compliant. These specifications included XBRL 2.1 [XBRL], Dimensions [DIM]. The Financial Reporting Taxonomy Architecture [FRTA] Recommendations were also largely followed insofar as they did not conflict with the requirements of XBRL Dimensions 1.0. The Architecture follows additional rules complementing these XBRL International documents.

1.2 Domain Model

The US GAAP Financial Reporting Taxonomy **domain model** partitions the business concepts so as to meet the UGT Requirements [REQ]. In this way the domain model articulates an understanding and interpretation of those requirements. In addition to formally defining roles and data stores, the domain model implements three fundamental principles to drive the design:

- Distinguish clearly between a reporting *document* and reporting *data*;

- Identify and partition the reporting concepts that financial statements must contain, and limit the need for extensions wherever possible;

- Identify and partition the "industries" that must be covered by the taxonomy while sharing concepts and data structures among them.

1.3 Logical Model

The **logical model** details the data and meta-data in the taxonomy, idealized and somewhat unconstrained by details of XBRL syntax. The logical model necessarily refers back to the overall business processes where the architecture will be used, as well as to the scope and content of the taxonomy, although the logical model obviously cannot detail all the content. Following from the domain model, the logical model focuses on detailing the groups of concepts and relationships needed to reconcile the document- and data- oriented relationship groups of financial reporting. Key principles implemented at the level of the logical model include:

- **Multiple Relationship groups and Entry Points** – US GAAP has thousands of concepts. As with a shopping catalogue of many items, a variety of groupings and hierarchies helps the various users to navigate the information. A particularly important view is analogous to a book's table of contents (sequential and presentation oriented). The architecture distinguishes these alternative relationship groups and a variety of "entry points" assemble one or more relationship groups, much as an online catalog provides multiple entry points into "furniture" "garden" and "home goods" that access overlapping items.

- **Dimensions for Data** – Detailed analysis [TUPLE] shows that XBRL tuples should not be used, since this greatly complicates any approach to reconciling document and data oriented perspectives – particularly for any kind of narrative disclosure [NARR]. Rather, information sometimes bound together using tuples makes use of the more robust XBRL Dimensions to bind this information together for strong technical reasons. The use of XBRL Dimensions provides more flexibility, better extensibility, the needed comparability, and more consistent extensions. This decision follows in line with the implementation experience of other projects in Europe (COREP, FINREP) and Japan (EDINET).

- **Disciplined Extensions** – The architecture internally enforces design rules to ensure that the base taxonomy from which others will need to extend is internally consistent. It is beyond the scope of the architecture to create a formal expression of extension rules to facilitate "disciplined" or "channeled" or "managed" extensions within systems that use it. We encourage systems that make use of the architecture to build such formal expressions for use within their systems. The Compact Patterns Declarations (CPD) is an example of such formalized expressions for the purpose of managing extension by filers.

- **Versioning Policies** – Change in financial reporting rules, XBRL, taxonomies and other changes are inevitable. As the desire for comparability is strong, documented versioning policies will play a major role in decisions on naming conventions, partitioning of concepts, and other logical model features. The physical implementation follows definition of the policies. Versioning policies in the architecture are not yet completed.

1.4 Physical Model

The architecture **physical model** is articulated in detailed technical terms and expresses the logical model in valid XBRL, supported by additional conventions and rules to express in the taxonomy what XBRL specifications by themselves cannot.   The physical model of the architecture is expressed in the form of design rules. Design rules expressed are partitioned by the physical component of the taxonomy to help make referring to these rules easier. Any taxonomy externally published should conform to the physical model. Key principles executed at the physical level are:

- **All concepts within one XML Schema** – The logical model allows concepts to be physically located within one physical file or partitioned into multiple physical files. The physical model places all US GAAP reporting concepts within one file so that one "monolithic" set of concepts will exist.   Placing all concepts within one physical file, presents few problems from a processing standpoint, and avoids the possibility that concepts will all be so inter-linked that the use of any concept would ultimately pull all of the others into its DTS. Eventually some agreement may be reached on how to actually physically partition concepts into multiple physical files, but that will be based on empirical analysis of the behavior of actual financial reports.

- **Text Blocks for Narratives** – The ability to express narratives is a use case to which XBRL International's rendering method specifications may provide a solution. However, that XBRL International specification is a work in progress. While many different possible solutions have been proposed as how to address the need to articulate narratives, none of these is a global standard solution. The US GAAP Financial Reporting Taxonomy seek to avoid over-committing to any particular rendering solution and minimize the use of XBRL constructs that are known to present additional rendering challenges; this is likely to accelerate the delivery of rendering solutions that are adequate for the requirements, as opposed to waiting for solutions that cover all possible XBRL constructs. As such, "text blocks" will be the primary means for expressing such narrative information. This may, or may not, meet all the needs of systems implementing the architecture. These systems, may, or may not, need to provide additional functionality; such as the functionality described by the Inline XBRL specification.

- **Minimize "Moving Parts"** – A number of XBRL syntax features are not used in the US GAAP Financial Reporting Taxonomy. These areas may or may not be made available to those who extend the architecture, based on choices made by systems using the architecture. For example, while the architecture does not allow the elements in contexts other than those in the "XBRL Dimensional Instance" namespace, the SEC could allow its filers, or not, to use additional elements.   Syntaxes removed from use are as follows:

  - **Restrictions on segment and scenario contents –** The architecture exclusively uses XBRL Dimensions in the elements within segments. The use of unconstrained contextual information has been shown in practice to complicate all of the use cases. In particular it hinders comparability and offers no mechanism to express of hierarchical categories of information. These failings would be exacerbated by forthcoming XBRL International specifications in areas such as Formulas. XBRL Dimensions meet requirements better; therefore, XBRL Dimensions information will be used exclusively for expressing contextual information.

  - **No use of typed members in dimensions –** The typed member element and typed members features of XBRL Dimensions are not used in the architecture. Typed members complicate user interfaces required for creating contexts, and all required functionality provided by typed members can be achieved using explicit members as well as essential functions such as providing labels and references for concepts. Additionally, complex typed members will complicate implementations of XBRL Formulas.   Eliminating the option for use of typed members is an important simplification.

  - **No tuple concepts –** The most recently published XBRL taxonomies worldwide avoid the use of tuples for all the same reasons: mapping is more challenging for software, comparability is not as robust, and extensibility is poor for tuples. In

some implementations, base taxonomies contain tuples, and then the extension taxonomies remove the tuples. Finally, having the option of both tuples and XBRL Dimensions raises the question for preparers when to use which. A net gain is achieved by eliminating the use of tuples. Short-term issues may arise, but these are more than offset by long-term benefits in terms of maintenance, flexibility, and the elimination of serious taxonomy extension related issues. Tuples are therefore not used in the architecture.

- **Application profile -** These voluntary restrictions followed by the architecture form an "application profile" for the use of XBRL features within the taxonomy. It is strongly recommended that extensions to the architecture stay within this application profile. Systems using the architecture may, at their option, set rules which force extension taxonomies to stay within this application profile.

1.5 DELETED

1.6 Document Conventions

Some figures in this document use the Unified Modeling Language [UML] visual style.

The following formatting is used for non-normative examples in this document:

The following formatting is used for non-normative counterexamples (examples of poor, discouraged, or disallowed usage) in this document:

Non-normative editorial comments are denoted as follows and removed from final recommendations:

The use of italics is for emphasis and has *no* normative impact.

1.7 Terminology (non-normative)

Terminology used in XBRL frequently overlaps with terminology from other fields.

Term	Meaning
arcroleRef, child, concept, context, duplicate item, descendant, DTS, duplicate tuple, element, entity, fact, footnote, instance, item, linkbase, linkbaseRef, period, roleRef, schemaRef, taxonomy, taxonomy schema, tuple, unit	As defined in [XBRL].
DTS Component	A discoverable taxonomy set (DTS) contains taxonomy schemas and linkbases. The bounds of a DTS are such that *DTS Components* include all taxonomy schemas and linkbases that can be discovered by following links or references in the taxonomy schemas and linkbases included in the DTS.

Term	Meaning
MUST, MUST NOT, REQUIRED, SHALL, SHALL NOT, SHOULD, SHOULD NOT, MAY, OPTIONAL	See [RFC2119] for definitions of these and other terms. These include, in particular: SHOULD Conforming documents and applications are encouraged to behave as described. MUST Conforming documents and consuming applications are required to behave as described; otherwise they are in error.
Development Taxonomy	Details of the taxonomy that, while it is being developed, may differ from its final syntax as published. A development taxonomy will generally align to the logical model but not to the physical.
FAF, FASB	Financial Accounting Foundation. Financial Accounting Standards Board
Financial report	A document containing quantitative and textual information that is either: (1) meant to satisfy authoritative financial reporting standards and generally accepted accounting principles/practices (or GAAP), or a regulatory report whose subject matter is primarily financial position and performance and related explanatory disclosures, or (b) is a data set used in the collection of financial statistics. This term excludes transaction, or journal-level, reporting, and primarily narrative or non-financial quantitative reports.
FRTA, FRTF	Financial Reporting Taxonomy Architecture, Financial Reporting Taxonomy Framework.
FRIS	Financial Reporting Instance Standards.
GAAP or US GAAP	Generally Accepted Accounting Principles: Term used to describe broadly the body of principles/practices that govern the accounting for financial transactions in the preparation of a set of financial statements..
IASB	International Accounting Standards Board
IFRS	International Financial Reporting Standards
PCAOB	Public Company Accounting Oversight Board
Report Fragment	A portion of a financial report that includes one or more reported facts
SEC	US Securities and Exchange Commission
TAG	Taxonomy Architecture Group of the US GAAP Financial Reporting Taxonomy project. The group includes the version 1.0 editors of this document.

Term	Meaning
UGT Patterns	See [PATTERNS], which contains 29 financial reporting patterns. A pattern starts with a typical fragment of a financial report and details how the information in it should be modeled in XBRL. In effect, the pattern shows how to get from a *document* view to a *data* view. (The acronym UGT is an obsolete term referring to the development project, not to the taxonomies).
VFP	SEC Voluntary Filing Program
XBRL	Extensible Business Reporting Language (XBRL) 2.1 Recommendation [XBRL].
XUS	XBRL US, Inc. (http://www.xbrl.org/us)

2 Domain Model

This section articulates the stakeholders, concepts, industries, and distinction between documents and data. Consumers of reported financial and non-financial information reported will be computer applications and humans. Accountants, analysts, reporting entities, and data aggregators prefer different relationship groups of the information contained in the US GAAP Financial Reporting Taxonomy.

2.1 Domain Stakeholders

The system involves multiple stakeholders who seek different characteristics, sometimes conflicting, from XBRL. These stakeholders are discussed in the Requirements and that discussion is not repeated here, but the list of stakeholders is provided to frame this discussion:

- Preparers
- Corporate Investors
- Individual Investors
- Regulators
- Auditors
- Software Vendors
- Data Aggregators
- XBRL-US (XUS) (XBRL US Inc.)
- Standards Setters (Financial Accounting Foundation (FAF), Financial Accounting Standards Board (FASB), Public Company Accounting Oversight Board (PCAOB), International Accounting Standards Board (IASB)

The system context indicates a variety of users and processes that the architecture will impact. This section provides a summary of that system.

1. **Standards Setters** encode accounting information (metadata) within a base taxonomy.

2. The accounting information (metadata) within the base taxonomy can be changed (extended) by **Preparers**. A **Preparer** creates an extension. The extension should be consistent with the base.

3. A **Preparer** creates a filing using the base taxonomy and extension taxonomy. A **Software Vendor** provides software (internal to preparer, external to preparer).

4. An **Auditor** my express an opinion on the filing, issuing an audit report. A **Software Vendor** provides software (internal to auditor, external to auditor).

5. A single information flow (a "filing", for example) represents a complex stream consisting of objects such as instances, schemas, and linkbases that reference each other.

6. A **Regulator** receives a filing and analyzes information within that filing. A **Software Vendor** provides software (internal to regulator, external to regulator).

7. A **Corporate Investor** or an **Individual Investor** obtains information from: (a) the **Regulator**, (b) the **Preparer**, or (c) a **Data Aggregator**. A **Software Vendor** provides software (internal to analyst, external to analyst).

8. Other paths of communication between different actors (e.g. between the **Standards Setters** and **Regulator**) are not in scope.

Figure 1. System Context – Actors and Processes
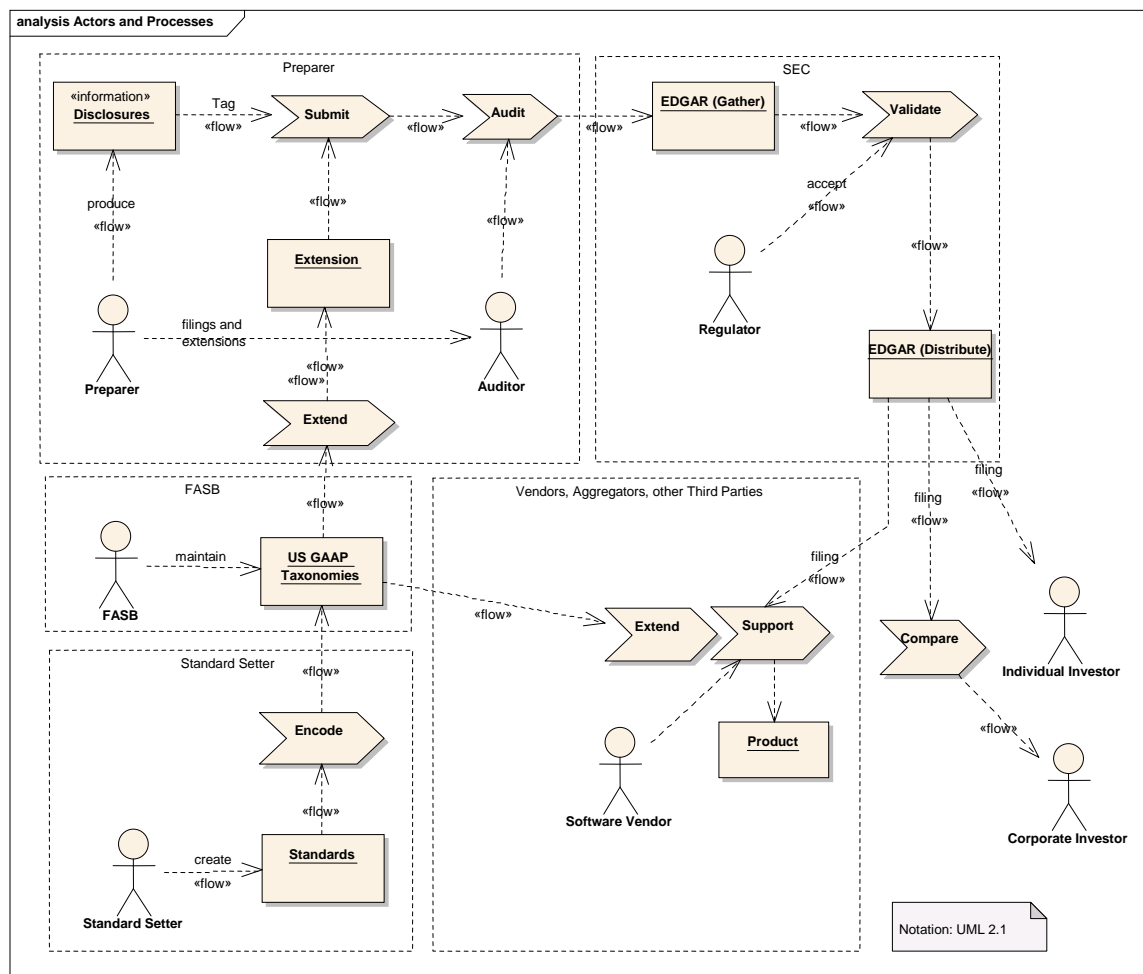
This system context is based on these assumptions:

1. The software used by the different stakeholders comes from different software vendors, but the software is compliant with XBRL recommendations to allow interoperability.

2. The information exchanged (expressed as metadata within a taxonomy and expressed as fact values in an instance document) contains data that is "numeric," "textual" and "narrative," all of which are in scope.

3. EDGAR or its equivalent will be a centralized store of the data (filings) and meta-data (taxonomies) that all parties, particularly preparers, viewers, performance analysts and aggregators will draw upon.

4. Preparers will continue to *print* financial information (instance document fact values) through financial printers. Rendering instance document information in a print quality format is NOT in scope.

Figure 2. System Context – Actors and Data Stores
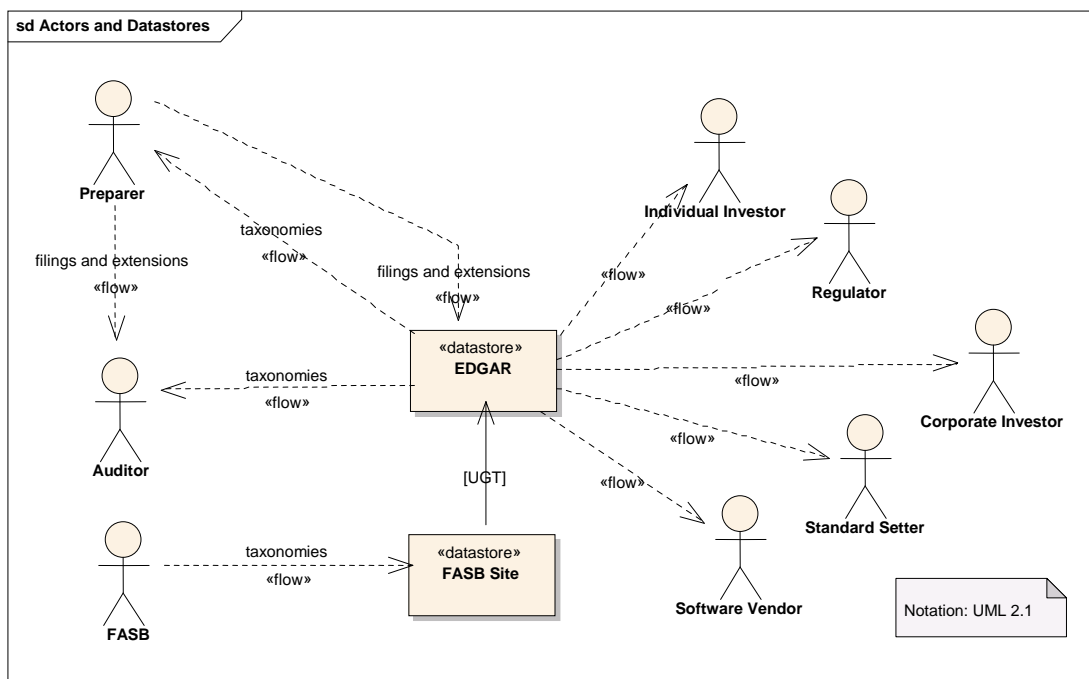
Other information relating to stakeholders/users and their goals, use cases, functional requirements, technical requirements, and other details of requirements are articulated in the Requirements document and will not be repeated here.

The rationale for the design decisions taken in this architecture takes into account not only the stated requirements, but also the impact on manual authoring of instances, automated data production, naïve consumers of the files, and on requirements of automated data extraction.

The environment in which this system operates is global in nature, however there is a particular concern in the architecture for fitness to purpose within the regime of registrants filing (or furnishing) documents with the US Securities and Exchange Commission. Any standing the taxonomy may be given in this regard derives completely from the authority of the SEC. The taxonomy attempts to deserve this standing by covering the domain outlined below. Coverage includes the ideas of completeness and quality. Concepts appearing in the literature should exist in the taxonomy, and concepts appearing in the taxonomy should be well supported in the literature. The expected relations of concepts (in the forms of standard disclosures) should be supported by the taxonomy. It is in this sense that the taxonomy is a domain model and not an independent intellectual exercise.

2.2 Concepts Reported

The FAF/FASB, SEC, and common financial reporting practices make up the body of knowledge of the financial reporting domain. Information from this body of knowledge is articulated in the form of taxonomy as financial reporting concepts and other meta-data needed for the financial reporting process. This body of knowledge is of unknown size, because many "concepts" are actually nothing more than the intersection of other, more basic concepts. This is because financial reporting under US GAAP is fluid and dynamic. It is not a form which a user must fill out. Preparers of financial information will find a need to extend the base taxonomies to support their custom financial reporting needs wherever the taxonomy has not provided the necessary concepts, relations, or other preparer-specific meta-data.

What is reported can be broken down into the following components. Note that this breakdown resembles the table of contents of a financial statement document:

Figure 3. Summary of Components in a Financial Statement

- GAAP information (Financial information)
    - o Primary financial statements
        - ▪ Balance sheet
            - Classified balance sheet
            - Unclassified balance sheet
        - ▪ Income statement
            - Single step income statement
            - Multi-step income statement
        - ▪ Cash flows statement
            - Direct method cash flow statement
            - Indirect method cash flow statement
        - ▪ Statement of changes in equity
    - o Notes to the financial statements
        - ▪ Significant accounting policies
        - ▪ Property, plant, and equipment disclosures
        - ▪ Long-term debt disclosures
        - ▪ Etc…
- SEC specific
    - o Management report
    - o SEC certification
    - o Management discussion & analysis (MD&A)

- Auditing
    - o Accountant report
- Other general information
    - o Document information
    - o Entity information

The components listed here cover facts reported as numbers, text and as narrative text. The facts reported as numbers include the numbers on the face of the financials as well as numbers in the notes, either in the form of tables or in-line inside the narratives.

Numeric concepts can be related by arithmetic relationships, and by relationships such as specialization (advertising expenses as a specialization of expense, for example).

Textual information is composed of isolated non-numeric information. An example of textual information may be the inventory costing method with a simple text string, or token, as a value such as "LIFO" or "FIFO".

Narratives are composed of a mixture of textual and numeric information that must be consumed linearly (in a certain specific order) to be understood. An example of a narrative is information that may appear in the "Management Discussion and Analysis" and in some disclosures.

The hierarchy shown above is made up of "relationship groups" that are document oriented. Relationship groups have a formal definition given in section 3 below; informally, a view shows a sequence of narrative concepts along with tables of hierarchical concept names for numeric facts. A balance sheet for the Banking and Savings industry, for example, is a view, and so is a Capital Leases disclosure.

Relationship groups are critical, yet they do not by themselves cover patterns of information that involve repetition of a set of facts, distinctions among them, and hierarchies [REQ], for example:

- All reporting entities have the notion of a "consolidated group" and "consolidating entries" and "business segments"; different entities have different business segments and the business segments are related in different ways.

- o The architecture provides known "root concepts" to indicate where reporting entities may add specifics about their organization, so that the reporting entity does not unnecessarily create variations of GAAP concepts.

- A business segment may be "continuing" or "discontinued" and a discontinued portion of an entity may be only a portion of a business segment, as opposed to the entire segment being discontinued.

  - o The architecture provides known concepts used to make these common distinctions in a consistent way across all entities.

- Notes and other disclosures may report the same facts stated separately for each item in a list such as individual land holdings, countries, customer tiers, environmental contingencies, separate pension plans for US and non-US employees, as well as summations of these lists, and summations of them in turn – in short, hierarchies.

  - o The architecture will provide these root concepts as well.

- Individual companies may report their own classes of information, which they report, such as new classes of Property, Plant and Equipment, or specific commodity line items (barley, coffee, copper) whose prices impact their quarter-to-quarter performance.

  - o The architecture will provide specific guidance in the form of known extension points.

The US GAAP Financial Reporting Taxonomy must be able to support eventual harmonization of the US GAAP and IFRS financial reporting taxonomies because of increasing global use of International Financial Reporting Standards (IFRS), as well as the FASB/IASB Convergence project, and the SEC dialog relating to allowing US filers to, at some point, elect IFRS or US GAAP as the method of reporting. While project time constraints currently preclude totally synchronizing the IFRS and US GAAP architecture must reflect this desired convergence.

2.2.1 Authority of taxonomy concepts

The standards of FAF/FASB, SEC, and common financial reporting practices commonly referred to as generally accepted accounting principles (US GAAP) make up the body of knowledge of the financial reporting domain. The architecture does not set financial reporting standards; rather, it articulates financial reporting practices established by these standards setters in the global standard XBRL format, which is usable by computer applications that support it.

2.2.2 Domain scope of taxonomy concepts

US GAAP financial reporting is fluid and dynamic. Preparers of financial information will, and are expected to, customize the taxonomy for their specific financial reporting needs as allowed and expected by US GAAP. The potential scope of any given version of the US GAAP Financial Reporting Taxonomy is the body of knowledge that makes up US GAAP as of that version's publication date. Not all components of US financial reporting practices will be delivered in any single version. (For example, some industries will be delivered at a later date.) Only those aspects of US GAAP that are pertinent to presentation and disclosure of financial information are reflected in the US GAAP Financial Reporting Taxonomy. Thus, although US GAAP discusses the measurement of concepts, such as the measurement of inventory, how to measure is not reflected in the architecture, but only the need to present or disclose the resulting value, such as "LIFO Inventories, Gross".

2.3 Reporting Industries

Those who report are broken down into a number of industries. Industries are business entities that use common practices for that industry.

Figure 4. Summary of Industries

- Commercial and Industrial (ci)
    - Commercial and Industrial Companies
    - Agriculture, Forestry, Fishing and Hunting
    - Construction
    - Airlines
    - Developing Stage Enterprises
    - Manufacturing
    - Wholesale Trade
    - Retail Trade
    - Transportation and Warehousing
    - Professional, Scientific, and Professional Services
- Real Estate (re)
- Banking and Savings Institutions (basi)
    - Bank Holding companies
    - Credit Intermediaries and related activities
    - Depository and Lending Institutions
    - Credit Unions
    - Mortgage Banking
- Insurance Companies (ins)
- Broker and Dealers in Securities (bd)
- Investment Management Companies (im) (not included in current release)
    - Registered Investment companies
    - Portfolio Management

Entities report only the aspects of financial and non-financial information that is applicable to them, and entities usually report within one industry. There are many concepts reported by companies in more than one industry; conversely, some reporting entities participate in a number of industries (conglomerates).   It is therefore vitally important that a single concept have only one meaning across all industries.

The architecture consists of a single set of concepts but provides several industry specific "entry points," each of which links together just the set of concepts and relationships typically needed by entities reporting in that industry. Each such entry point collects together a set of "relationship groups," some of which are shared with other industries. Not every industry listed in Figure 4 above will necessarily appear in every release of the taxonomies.

Within the set of financial information, entities have reporting options; for example, an entity may use a single- step or a multi- step income statement, or an entity may report a cash flow statement using the direct method or the indirect method, not both. The number of permutations and combinations is quite large. Reporting entities will need to pick and choose what is applicable to their reporting situation.

The architecture therefore also groups concepts and relationships into "entry points" that combine the complete list of disclosure choices for each industry.

2.4 Concept Organization

The body of US GAAP accounting knowledge is extensive and is managed by its creators. For example, the FASB has a method of organizing financial reporting concepts. The architecture leverages such existing organization schemes.

The starting point for the version 1.0 relationship groups was the FASB Codification and Retrieval project [FASB]. The codification consists of a hierarchy of Topics and Subtopics.

Figure 5. Summary of FASB Topics as of Late 2010

105 Generally Accepted Accounting Principles	205 Presentation of Financial Statements

210	Balance Sheet	215	Statement of Shareholder Equity
220	Comprehensive Income	225	Income Statement
230	Statement of Cash Flows	235	Notes to Financial Statements
250	Accounting Changes and Error Corrections	255	Changing Prices
260	Earnings Per Share	270	Interim Reporting
272	Limited Liability Entities	274	Personal Financial Statements
275	Risks and Uncertainties	280	Segment Reporting
305	Cash and Cash Equivalents	310	Receivables
320	Investments - Debt and Equity Securities	323	Investments - Equity Method and Joint Ventures
325	Investments - Other	330	Inventory
340	Other Assets and Deferred Costs	350	Intangibles –Goodwill and Other
360	Property, Plant, and Equipment	405	Liabilities
410	Asset Retirement and Environmental Obligations	420	Exit or Disposal Cost Obligations
430	Deferred Revenue	440	Commitments
450	Contingencies	460	Guarantees
470	Debt	480	Distinguishing Liabilities from Equity
505	Equity	605	Revenue Recognition
705	Cost of Sales and Services	710	Compensation - General
712	Compensation - Nonretirement Postemployment Benefits	715	Compensation - Retirement Benefits
718	Compensation – Stock Compensation	720	Other Expenses
730	Research and Development	740	Income Taxes
805	Business Combinations	808	Collaborative Arrangements
810	Consolidation	815	Derivatives and Hedging
820	Fair Value Measurements and Disclosures	825	Financial Instruments
830	Foreign Currency Matters	835	Interest
840	Leases	845	Nonmonetary Transactions
850	Related Party Disclosures	852	Reorganizations
855	Subsequent Events	860	Transfers and Servicing
905	Agriculture	908	Airlines
910	Contractors – Construction	912	Contractors – Federal Government
915	Development Stage Entities	920	Entertainment – Broadcasters
922	Entertainment – Cable Television	924	Entertainment – Casinos
926	Entertainment – Films	928	Entertainment – Music
930	Extractive Activities – Mining	932	Extractive Activities – Oil and Gas
940	Financial Services – Broker and Dealers	942	Financial Services – Depository and Lending
944	Financial Services – Insurance	946	Financial Services – Investment Companies
948	Financial Services – Mortgage Banking	950	Financial Services – Title Plant
952	Franchisors	954	Health Care Entities
958	Not-for-Profit Entities	960	Plan Accounting – Defined Benefit Pension Plans
962	Plan Accounting – Defined Contribution Pension Plans	965	Plan Accounting – Health and Welfare Benefit Plans
970	Real Estate –General	972	Real Estate – Common Interest Realty Associations
974	Real Estate – Real Estate Investment Trusts	976	Real Estate – Retail Land
978	Real Estate – Time-Sharing Activities	980	Regulated Operations
985	Software	995	U.S. Steamship Entities

Preparers and analysts of financial reports sometimes have different preferences for how financial information is organized, but there are some common patterns to these preferences.

For presenting concepts within the architecture to preparers, analysts, and other users, the common forms of financial statements will be used. This view is commonly referred to a "document oriented" view as it follows the flow of financial report documents. For example, this document oriented view will include "statements" and "disclosures" which are familiar to both preparers and analysts.

While the architecture will create useful general organizations of the taxonomy for use by stakeholders, it is fully expected that those stakeholders will also create their own preferred relationship groups of the architecture. These supplemental organizations of the architecture, say, specifically for analysts or specifically for preparers in a certain industry, are expected to be market driven, are highly desirable, and will not harm the functionality of the taxonomy. This flexibility to reorganize the taxonomy as stakeholders see fit is considered within the design scope of the architecture.

2.5 Financial Reporting Patterns

Financial reports may express the same facts using many different visual layouts. Consider the difference between this tiny part of a financial report:

Expenses for 2009 were $14m,

and this other tiny part, perhaps appearing even in the same financial report:

(in 000s)	2010	2009
Revenue	$20,000	18,000
Expenses	15,000	14,000
Net Income	5,000	4,000

Both of these *report fragments* in documents express the same *reported fact* as if it were expressed as data. Indeed there is only one US GAAP concept involved, namely, Expenses. Just as with any human language, the relationship between the intended meaning of an utterance and the syntax and symbols used to convey that semantics depend on the relationship of speaker and listener, history and convention, shared knowledge, ability of the listener to draw inferences, limitations of the medium, the surrounding context, etc. In human languages we readily accept that there is a many-to-many relationship between utterances and meaning---many alternatives and levels of meaning for a single utterance, or many utterances to convey the same meaning). It is the same in business reporting.

XBRL focuses on how reported facts are expressed and how they are connected to other concepts and reported facts. The US GAAP Financial Reporting Taxonomy architecture does not force any preparer's software into a particular layout or presentation.

The architecture allows a preparer's software application to create *any* report fragment in a document while allowing an analyst's software application to extract the *same* reported fact as data. To achieve this, *financial reporting patterns* help the SME who is contributing to a taxonomy (or a preparer extending a taxonomy) to start with one or more report fragments, generalize those common report fragments into a view, and then use that result to encode the necessary concepts and relationships into the taxonomy so that they will appear in the appropriate schedules. For example, a "Basic Calculation" pattern applies to typical statement relationship groups (cash flows, for example) and individual line items (Net receivables and allowances, for example) and shows exactly how to encode these as concepts so that the resulting XBRL instances contain data that is consistent and comparable no matter what the original report looked like. The USFRTF Patterns Guide [PATTERNS] provides extensive detail on how this connection is made.

2.6 Change/Life Cycle

The US GAAP Financial Reporting Taxonomy will grow and evolve. Over time, financial reporting rules change, therefore the taxonomy will change. Therefore, it is critical that policies be defined that allow vendors and users to anticipate changes. The technical approach must be sound and sustainable in the near and long term, and able to sustain sometimes conflicting short- and long-term goals. Although this architecture tries to strike the appropriate balance, achieving sustainability is a priority over possible, and likely mild, short-term challenges. All stakeholders that use taxonomies will need to update their systems for different versions of the US GAAP Financial Reporting Taxonomy and for extension taxonomies. Preparers, aggregators, analysts store information within databases which must be versioned for:

- Changes to a taxonomy

- Changes to what is reported (restatement of information, reclassification of information between periods, etc.)

Changes to XBRL itself in the form of new recommendations are out of scope, although it is certainly the case that the Domain and Logical levels of the Domain model should not change as a result of changes in XBRL that impact the physical level.

3 Logical Model

The US GAAP Financial Reporting Taxonomy logical model organizes the domain model into data and meta-data definitions to be used in the physical model to articulate the taxonomy in XBRL syntax. The following are important concepts defined at the level of the logical model:

- **View** – US GAAP Financial Reporting Taxonomy has thousands of concepts. A "view" is a grouping of concepts to assist specific users (analysts, preparers, etc). A view is usually a hierarchy but may simply be a list. Relationship groups do not include other relationship groups.

- **Statement View** – A Statement view is a type of view that is familiar to preparers of financial reports; it mimics a balance sheet, income statement, cash flow statement, or other common financial statement.

- **Disclosure View** – A Disclosure view is also familiar to preparers of financial report, it mimics the flow of a narrative disclosure or note and in that sense resembles a table of contents).

- **Document View** – A Document view resembles a Disclosure view, except that the term 'Document View' is reserved to refer to material that is not encompassed by US GAAP Disclosures, such as the SEC Certification view.

- **Data View** – A data view is a type of view that is "data centric," meaning it is more like a shopping catalogue or index, rather than a financial statement document. A data view is a categorization of related concepts, expressed in the form of relations. Not every US GAAP Financial Reporting Taxonomy release will necessarily contain Data relationship groups.

- **Pattern** – A pattern helps business users understand how to model a certain set of financial information as an XBRL taxonomy component. A pattern would help someone who understood the document view to understand the data view needed by the taxonomy. Patterns are informal, meant more for human consumption.

- **Entry Point** – An entry point assembles relationship groups for a specific purpose, such as for reporting by an entity. There are too many possible permutations and combinations to create an entry point for every combination, but many are included in the architecture because they are so helpful. Sometimes called a "manifest," the term is derived from "Discoverable Taxonomy Set (DTS) entry point" [XBRL].

- **Reporting Entity Entry Point** – An entry point may be created by every reporting entity or preparer so that their view of the taxonomy shows only the schedules they need. Reporting entry points are created by preparers.

- **Documentation Entry Point** – A documentation entry point is used to collect related relationship groups independently of whether the relationship groups would all be used by a single reporting entity. For example, the C&I industry would include both "Cash Flow Statement, Indirect Method" and "Cash Flow Statement, Direct Method". A single reporting entity would not use both. The entry points provided with each version of the taxonomy are documentation entry points.

- **Industry Entry Point** – An industry entry point is a schema or physical "set," not a reporting industry itself. For example, the industry schema "Commercial and Industrial" includes the reporting industries "Airlines", "Construction Contractors", and so forth.

- **Master Entry Point** – Formerly called a "palette," the master entry point is an entry point that collects together *all* of the relationship groups of a particular kind, such as, for example, all of the relationship groups in all industry entry points. Any given taxonomies release might contain as few as one such master entry point.

- **Extension Point** – An area of a view where extensions (new concepts, additional relations, removal of relations) may occur is an extension point. Relationship groups are expected to be extended in certain areas and not in other areas.

- **Extension Rule** – An extension rule is a rule that indicates how a taxonomy may be extended. A rule may include the extension point. An example of an extension rule is "this list of concepts within a calculation can be extended" or "this list of concepts within a calculation may NOT be extended."

3.1 Concepts

A large number of concepts will exist within any taxonomy version. Each taxonomy concept will be uniquely identifiable via labels for concepts, definitions of concepts, and/or references to the financial reporting literature issued by the FASB or other standards setters and regulators. This information will be useful to preparers, analysts, and regulators.

Rules governing the relationship between a concept, its standard label, the element name representing the concept, and its supporting references are documented in detail in the Style Guide [STYLE]. Each financial reporting concept has a minimum of one label, provided in US English, documentation that defines the concept, and optionally references authoritative literature that defines the concept. Enough references are provided to uniquely identify each taxonomy concept, as opposed to an exhaustive list of each reference to the concept within the financial reporting literature. As many concepts are based on how US GAAP is applied and industry practice, they do not always tie back to the literature and thus may not have references.

The logical model has concept categories **Narrative**, **Number**, **Token** and **Abstract**. These general categories have further subdivisions, and are used in specific ways to model different facts and parts of a financial report.

3.1.1 Narrative concepts

A narrative is a fact that contains text and tables of numeric and/or text that must be consumed in an order. For example, three paragraphs of text followed by a table that is followed by three additional paragraphs of text is a narrative. The fact's concept name must be sufficiently general as to encompass all the material that might be in that narrative. "Extraordinary Items Disclosure [Text Block]" and "Segment Reporting Disclosure [Text Block]" are examples of narrative concepts.

Every narrative is modeled as a "text block" consisting of an arbitrary number of characters preserving all line breaks, tabs, and spaces. However, this by itself does not meaningfully address the underlying modeling problem, namely: *narrative facts overlap and may even be redundant*. Therefore, the US GAAP Financial Reporting Taxonomy will contain not only a general "Accounting Policies" narrative concept, it will – and must – contain concepts representing the different parts of an Accounting Policies disclosure.

While there are many possible representations of the two-dimensional visual layout and content of a business report, the layout of any business document is often represented as a tree whose leaves are individual characters or glyphs and the intermediate nodes are words, sentences, rows, tables, and so on.

Figure 6 below illustrates that for an instance to faithfully represent *both* bodies of information *and* their relationship to each other there must be a many-to-many relationship between fragments and facts. It is not, and cannot ever be, enough to treat every fragment in a report as if it were a sequence of digits to represent one and only one numeric fact.
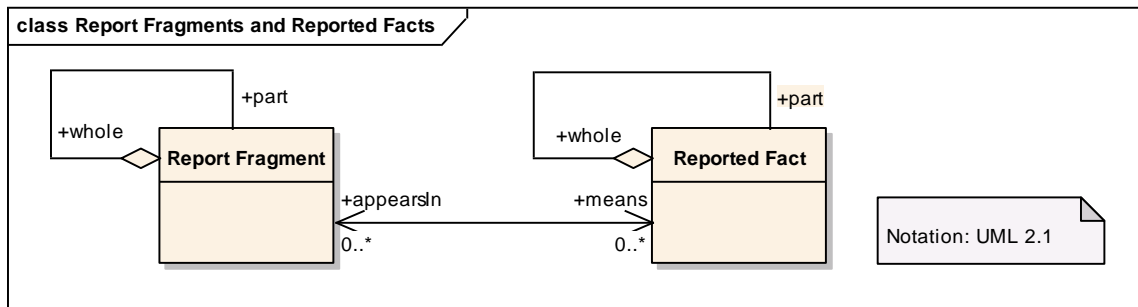
Figure 6. Many-to-Many Relationship Between Fragments and Facts

Figure 7, below, is an example of this abstract figure. The narrative on the left, broken into three parts by the report author for layout reasons, is straightforward. Likewise, the relationship between the two facts on the right is also straightforward, as one is more general than the other. But the correspondence between the fragments and facts is such that one fragment ("$39 Million") supports both the specific numeric fact as well as being part of the more general disclosure; and the numeric fact isn't fully supported by just "$39 million" because it implicitly refers also to the rest of the sentence that identifies the company, time period, etc.

Figure 7. Example of Many-to-Many Relationship of Fragments and Facts
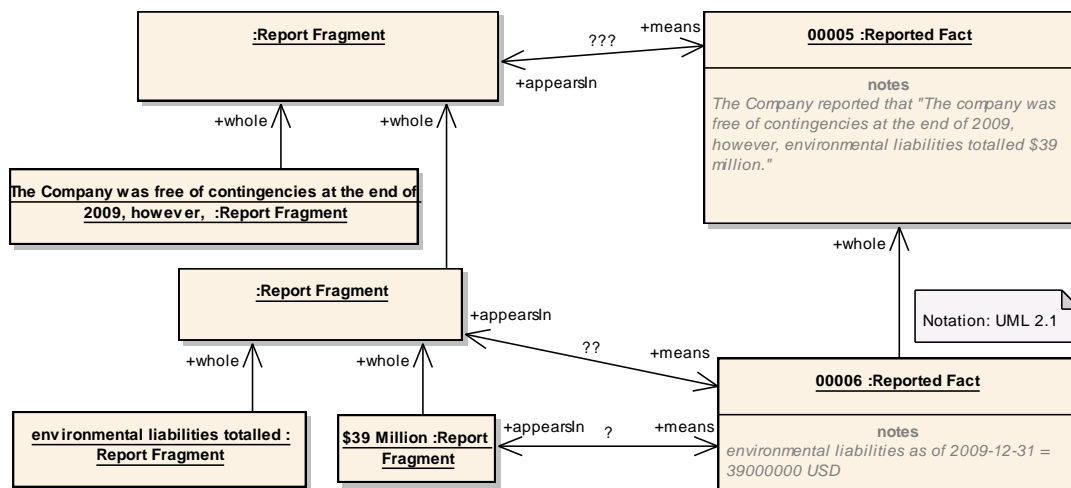
Note that even limiting consideration of "report fragments" to tabular data displays does not eliminate the need to be flexible about the correspondence between fragments and facts. In the figure below, we pack into the fact "Expenses = 14000000 USD in 2009" contextual information from the rest of the table---and yet for some reason feel comfortable associating that fact with the string "14,000" and nothing more.

(in 000s)	2010	2009
Revenue	$20,000	18,000
Expenses	15,000	14,000
Net Income	5,000	4,000

Conventional thinking has held that facts (in XBRL) are the "normalized" representation of facts that had been "denormalized" for display in the business report. This appeared to be the case because some *numeric* facts (Net Income, for example) appeared in multiple locations. In fact, that phenomenon described only a small fraction of the figures in a real financial

report. The more compelling reality is quite the opposite: Narrative facts are the *denormalized* representation of a report: a single report fragment might show up in, and support, any number of disclosures (facts).

Narrative concepts will be articulated using text block concepts and additional token and numeric concepts as deemed necessary.

3.1.2 Text block concepts

Between a narrative concept and a token concept is the text block concept. A text block is a string that may contain extra white space, carriage returns, line feeds, and tab characters. Text blocks are useful in articulating narrative-type content, when the preparer does not feel that the formatting capabilities of the narrative are necessary.

3.1.3 Token concepts

Not every concept that would contain text is necessarily a narrative. A "Token," in the XML schema sense, is a normalized string without leading or trailing spaces, carriage returns, line feeds, or tab characters. Tokens are appropriate for the content of facts, such as a date or the name of an oil field or a person.

The root concepts of a domain such as the "consolidation" or "business segment" domains are tokens also by convention, although the length of their content would always be 0.

3.1.4 Number concepts

Number concepts follow the naming rules and data type conventions of [STYLE]. There are a number of data types defined for numbers that cannot be negative, that cannot be positive, and so forth.

3.1.5 Abstract concepts

Concepts appear as abstract schema elements to facilitate organization and structure of the taxonomy; that is, their only purpose is in the taxonomy and never to appear as a fact in an instance. For example, every Statement View has an abstract concept as its root.

3.2 Relationship Groups and Entry Points

There are three basic sets of information needed for preparation of financial statements, as depicted in Figure 8, below. These include the Primary Financial Statements (PFS) and Notes to the Primary Financial Statements (NTS). PFS includes statement of financial position, statement of income, statement of other comprehensive income, statement of shareholders' equity and other comprehensive income, and statement of cash flows. Notes to the financials include disclosure notes for the financials. Notes to the financials make reference to concepts in the PFS. The SEC provides certain Non-GAAP Material in the Document and Entity Information. The PFS and NTS may reference Non-GAAP Material.

Financial concepts (US GAAP) included in the US GAAP Financial Reporting Taxonomy come mainly from the accounting literature issued by the FASB and the SEC, and common practices used in financial reporting. This information can be categorized into information presented on the face of the financial statements (statement of financial position, statement of income, statement of other comprehensive income, statement of shareholders' equity and other comprehensive income, and statement of cash flows) and disclosed within the explanatory disclosures (i.e., significant accounting policies; property, plant and equipment disclosures; long term debt disclosures, etc.) which are commonly organized into "notes to the financial statements" by preparers of financial statements. There are common patterns to disclosing information, but there are also variations across entities even within the same reporting industry.

Figure 8. Information Sets related to US GAAP Financial Reporting Taxonomy
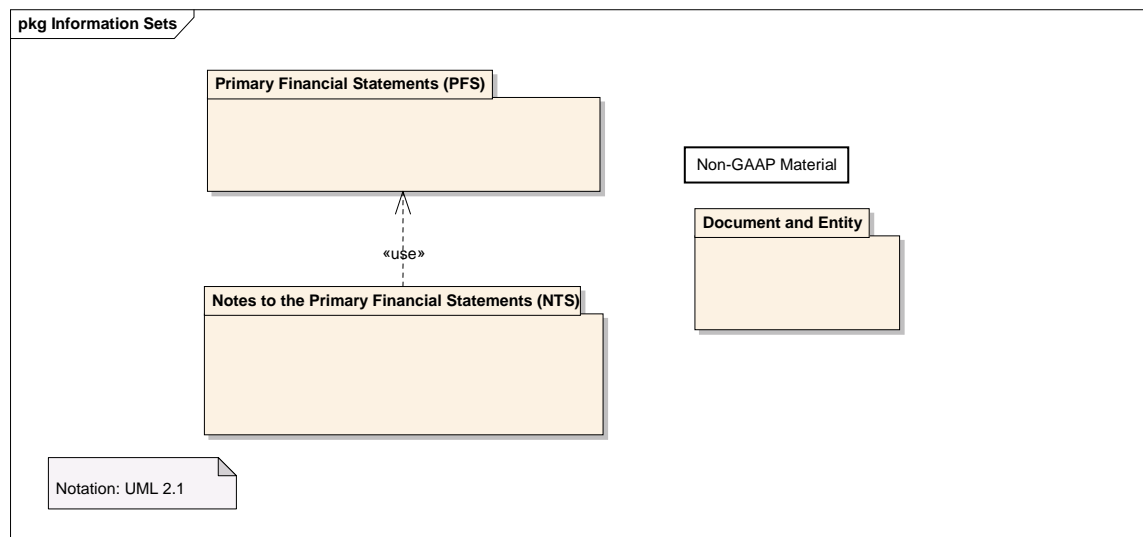
3.2.1 Relationship Groups

Relationship groups assist preparers, analysts, software vendors, and others in understanding the taxonomy's thousands of concepts. Each relationship group contains anywhere from 20 to 200 concepts. Each relationship group also represents one of a set of relations that may be relied upon by software:

- Presentation relations express a human-readable grouping of financial data.

- Calculation relations express arithmetic relationships between concepts, such as "Assets = Assets, Current + Assets, Noncurrent".

- Definition relations express all other relationships.

Each relationship group roughly corresponds to a grouping that relates these concepts into a visually useful construct, normally a schedule. Generally speaking, a 'Relationship group' portrays one aspect or subset of a large set of data. Examples of relationship groups are the classified balance sheet, the indirect cash flow statement, or the operating leases disclosures.

Note that while a relationship group does not generally provide sufficient information to "render" instances.

Relationship groups are often orthogonal in the sense that relationship groups do not depend upon each other. There is no hierarchy, nesting, or relationship of relationship groups.

An Entry Point is a set of relationship groups.

3.2.2 Schedules

A 'Schedule' appears as a set of concepts within a relationship group and the root concept of a schedule is a text block. In most schedules, the various line items have numerical consistency demonstrating simple rollups, movement analyses, or both. Figure 9, below, illustrates the "Schedule of Property, Plant, and Equipment [Table]" including facts to show the assets of a fictitious company.

Figure 9. View of a Schedule "Property, Plant, and Equipment" with Facts

ABC Company, Inc.
Notes to the Consolidated Financial Statements
December 31, 2004 and 2003

3. PROPERTY, PLANT AND EQUIPMENT

	Land	Buildings, Net	Furniture and Fixtures, Net	Other Property, Plant, and Equipment, Net	Property, Plant, and Equipment, Net
Balance at December 31, 2002	1,000	1,000	1,000	1,000	4,000
Additions	1,000	1,000	1,000	1,000	3,000
Disposals	-1,000	-1,000	-1,000	-1,000	-3,000
Translation Difference	0	0	0	0	0
Other Increase (Decrease)	0	0	0	0	0
Balance at December 31, 2003	1,000	1,000	1,000	1,000	4,000
Additions	1,000	1,000	1,000	1,000	3,000
Disposals	-1,000	-1,000	-1,000	-1,000	-3,000
Translation Difference	0	0	0	0	0
Other Increase (Decrease)	0	0	0	0	0
Balance at December 31, 2004	1,000	1,000	1,000	1,000	4,000

Each schedule consists of one or more patterns [PATTERNS]. The previous example is a roll forward (or movement analysis) pattern across two years. Each schedule corresponds to one or more patterns. It is possible to create additional patterns if they are discovered.

3.2.3 Industries

Each industry has at least one entry point. Different reporting industries will have different entry points, unique to that reporting industry, not burdening, say, a commercial and industrial type entity with relationship groups relating only to financial institutions.

Companies reporting in an industry will be able to "pick and choose" relationship groups that are appropriate to their reporting situations.

Relationships between Industries only exist in the sense that their entry points may share many of the same relationship groups and therefore share concepts.

The model in Figure 10 depicts how different reporting industries use different relationship groups organized for that specific industry. Although it is not a particularly realistic example, the figure shows that many, but not all, of the same relationship groups would be used by reports from both Construction and Airline industries.

Figure 10. Five Example Statement Relationship Groups, with Two Industry Entry Points

class Schedules
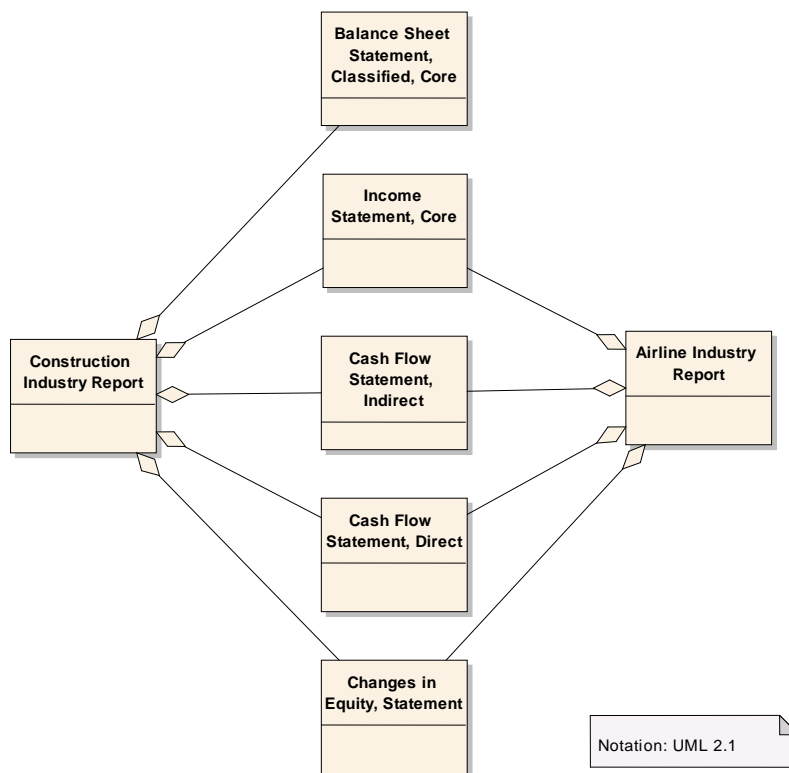
3.2.4 Entry points

An entry point is a set of relationship groups that typically relate to the industry in which a reporting entity operates. Entry points take into consideration the financial reporting practices of an entity, for example whether the reporting entity uses a classified or unclassified statement of financial position.

It would be impossible to create entry points (a master entry point) that would meet the needs of every preparer; there are too many permutations and combinations. Master entry points are useful for viewing a taxonomy in its entirety. However, these master entry points would never actually be used for reporting as, for example, no reporting entity reports both the direct and indirect cash flow statement, but both are part of the commercial and industrial companies industry view. Also, some relationship groups have redundant information with other relationship groups, and software applications may perform poorly if (say) the balance sheets for banks and for broker-dealers are opened at the same time.

The rationale for the DTS contents of an entry point can be thought of in either a top-down or bottom-up fashion. A "master" entry point can be pruned to remove any undesired relationship groups and schedules. Alternatively, a preparer could start with a "stub" entry point containing nothing, and then add what is needed. The industry entry points provided are generally constructed "top down"; they will include:

- Commercial and Industrial
- Real Estate
- Banking and Savings

- Insurance
- Brokers and Dealers in Securities

The concepts that appear in financial statements and their relationships to one another reflect the underlying nature of the business being reported. This is sometimes inaccurately expressed in terms of industries rather than as types of operations. Figure 11 below shows the implicit hierarchy of statement types reflecting this important distinction. Consider the statements in this type hierarchy as the menu of choices; then, an industry is characterized by a typical, though not mandatory, set of choices.

Figure 11. Statement Relationship groups, organized by type (abridged)

```
1. Statement of Financial Position
        a.  Classified
        b.  Unclassified
                i.   Deposit Based Operations
                ii.  Insurance Based Operations
                iii. Securities Based Operations
2. Statement of Income
        a.  Deposit Based Operations
        b.  Insurance Based Operations
        c.  Securities Based Operations
3. Statement of Cash Flows
        a.  Direct
        b.  Indirect
                i.   Deposit Based Operations
                ii.  Insurance Based Operations
                iii. Securities Based Operations
4. Statement of Shareholders' Equity and Other Comprehensive Income
        a.  Statement of Other Comprehensive Income
        b.  Statement of Partners' Capital
```

A typical "commercial and industrial" company, for example, would use "1.a Classified" Statement of Financial Position, the undifferentiated "2. Statement of Income", the "3.b. Indirect" Statement of Cash Flows, and "4. Statement of Shareholders Equity and Other Comprehensive Income."

A privately held insurance company could use the "1.b.ii. Insurance Based Operations" Statement of Financial Position, the "2.b. Insurance Based Revenue" Statement of Income, and the "3.b.ii. Insurance Based Operations" Statement of Cash Flows, and "4.b. Statement of Partners Capital."

Not shown in Figure 11 above is that some statements have a number of common alternative sets of calculations. Alternative calculations reflect the fact that within the presentation view, there may be different ways to show the derivation of a figure. A full list is shown in Figure 13 below.

There are many disclosures that are applicable to all industries such as the need to disclose revenue recognition policy, so that almost all Disclosure Relationship Groups are applicable to all industries. Only a few obviously industry-specific disclosures in the financial services area are limited to those industries' entry points. Naturally, how industries organize their disclosures and other specialized industry information are unique to each industry, and a hierarchical organization like that in Figure 11 above may be introduced.

An advantage of this organization is that there are specific industries whose statements do not need to be segregated because their reporting is not characterized by a separate set of financial statements; for example, airlines or agricultural industries would normally use the commercial and industrial statements, perhaps adding only a few unique or particular concepts.

Figure 13 shows a sample summary of the Statement Relationship Groups including all alternates. It is helpful in understanding the relationship between these different statements to recognize that they are extracted from a single, common set of taxonomy arcs. This process guarantees that every industry uses a subset of the full taxonomy's *relationships* as well as a subset of its *concepts.* If a preparer uses linkbases from more than one industry, the arcs may be redundant (causing no difficulty for XBRL semantics) but are never inconsistent.

Figure 12. Each Statement Relationship Group Linkbase Is a Subset of a Common Set Maintained Centrally
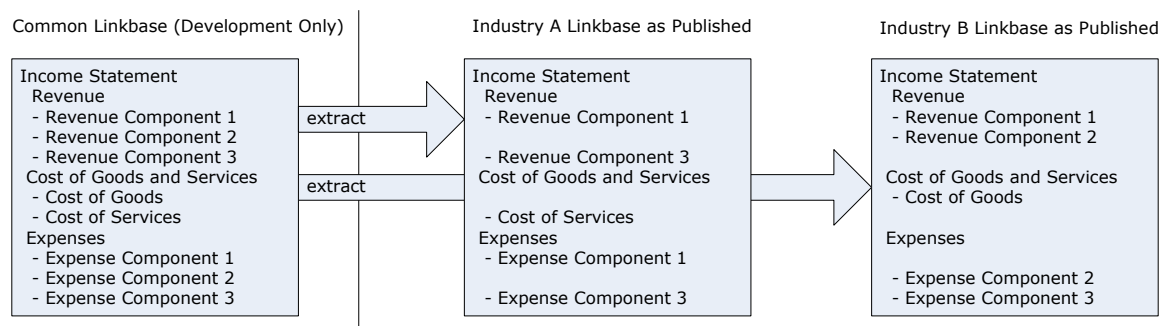
Figure 13.   Sample of Statement Relationship groups provided with US GAAP Financial Reporting Taxonomy.

104000 - Statement - Statement of Financial Position, Classified
104050 - Statement - Statement of Financial Position, Classified (First Alternative)
108000 - Statement - Statement of Financial Position, Unclassified - Deposit Based Operations
108050 - Statement - Statement of Financial Position, Unclassified - Deposit Based Operations (First Alternative)
108200 - Statement - Statement of Financial Position, Unclassified - Insurance Based Operations
108250 - Statement - Statement of Financial Position, Unclassified - Insurance Based Operations (Partners' Capital Alternative)
110000 - Statement - Statement of Financial Position, Classified - Real Estate Operations
110050 - Statement - Statement of Financial Position, Classified - Real Estate Operations (Partners' Capital Alternative)
112000 - Statement - Statement of Financial Position, Unclassified - Securities Based Operations
112050 - Statement - Statement of Financial Position, Unclassified - Securities Based Operations (Partners' Capital Alternative)
112201 - Statement - Statement of Financial Position, Unclassified - Securities Based Operations (Financial Instruments Alternative)
124000 - Statement - Statement of Income (Including Gross Margin)
124100 - Statement - Statement of Income (Excluding Gross Margin Alternative)
124101 - Statement - Statement of Income (Excluding Gross Margin and Discontinued Operations Alternative)
132001 - Statement - Statement of Income, Interest Based Revenue
132030 - Statement - Statement of Income, Interest Based Revenue (Discontinued Operations Alternative)
136000 - Statement - Statement of Income, Insurance Based Revenue
136025 - Statement - Statement of Income, Insurance Based Revenue (Investment Gain (Loss) without Impairment Element Alternative)
140400 - Statement - Statement of Income, Securities Based Income
140410 - Statement - Statement of Income, Securities Based Income (Discontinued Operations Alternative)
144000 - Statement - Statement of Income, Real Estate, Excluding REITs
144025 - Statement - Statement of Income, Real Estate, Excluding REITs (Investment Gain (Loss) without Impairment Element Alternative)
145000 - Statement - Statement of Income, Real Estate Investment Trusts
148400 - Statement - Statement of Other Comprehensive Income

148600 - Statement - Statement of Shareholders Equity and Other Comprehensive Income
152000 - Statement - Statement of Partners Capital
152200 - Statement - Statement of Cash Flows
152210 - Statement - Statement of Cash Flows (Net Change Investments and Debt Alternative)
152250 - Statement - Statement of Cash Flows (Discontinued Operations Alternative)
160000 - Statement - Statement of Cash Flows, Deposit Based Operations
160250 - Statement - Statement of Cash Flows, Indirect, Deposit Based Operations (Discontinued Operations Alternative)
160800 - Statement - Statement of Cash Flows, Indirect, Deposit Based Operations (Net Change Investments and Debt Alternative)
164000 - Statement - Statement of Cash Flows, Insurance Based Operations
164250 - Statement - Statement of Cash Flows, Indirect, Insurance Based Operations (Discontinued Operations Alternative)
168400 - Statement - Statement of Cash Flows, Securities Based Operations
168800 - Statement - Statement of Cash Flows, Indirect, Securities Based Operations (Net Change Investments and Debt Alternative)
172600 - Statement - Statement of Cash Flows, Direct Method Operating Activities
172850 - Statement - Statement of Cash Flows, Direct Method Operating Activities (Discontinued Operations Alternative)

The following is a sample of the Disclosure Relationship groups. Note that each of these Disclosure Relationship groups applies to almost but not all industries, and a similar extraction process shown in Figure 12 above.

Figure 14. Sample of Industry-independent Disclosure Relationship groups.

200000 - Disclosure - Organization, Consolidation and Presentation of Financial Statements
250000 - Disclosure - Accounting Changes and Error Corrections
275000 - Disclosure - Risks and Uncertainties
285000 - Disclosure - Interim Reporting
290000 - Disclosure - Accounting Policies
300000 - Disclosure - Cash and Cash Equivalents
320000 - Disclosure - Receivables, Loans, Notes Receivable, and Others
320500 - Disclosure - Receivables, Loans, and Notes Receivable, and Others (Loans Alternative)
330000 - Disclosure - Investments, Debt and Equity Securities
333000 - Disclosure - Investments, Equity Method and Joint Ventures
336000 - Disclosure - Investments, All Other Investments
340000 - Disclosure - Inventory
340005 - Disclosure - Inventory (Classification by Industry Alternative)
350000 - Disclosure - Deferred Costs, Capitalized, Prepaid, and Other Assets
360000 - Disclosure - Property, Plant, and Equipment
370000 - Disclosure - Intangible Assets, Goodwill and Other
400000 - Disclosure - Payables and Accruals
420000 - Disclosure - Asset Retirement Obligations
425000 - Disclosure - Environmental Remediation Obligations
430000 - Disclosure - Restructuring and Related Activities
440000 - Disclosure - Deferred Revenue
450000 - Disclosure - Commitment and Contingencies
456000 - Disclosure - Guarantees
460000 - Disclosure - Debt
460100 - Disclosure - Debt (Long-term Debt, by Type, Current and Noncurrent Alternative)
460200 - Disclosure - Debt (Long-term Debt by Maturity Alternative)

460300 - Disclosure - Debt (Long-term Debt, by Category, Current and Noncurrent Calc Alternative)
470000 - Disclosure - Other Liabilities
470500 - Disclosure - Other Liabilities (Warranty Accrual by Standard or Extended Alternative)
471000 - Disclosure - Other Liabilities (Warranty Accrual by Current or Noncurrent Alternative)
472000 - Disclosure - Minority Interest
480000 - Disclosure - Temporary Equity
500000 - Disclosure - Equity
705000 - Disclosure - Compensation Related Costs, General
710000 - Disclosure - Compensation Related Costs, Share Based Payments
730000 - Disclosure - Compensation Related Costs, Retirement Benefits
740000 - Disclosure - Compensation Related Costs, Postemployment Benefits
750000 - Disclosure - Other Income and Expenses
760000 - Disclosure - Research and Development
770000 - Disclosure - Income Taxes
770500 - Disclosure - Income Taxes (Current and Noncurrent Alternative)
770510 - Disclosure - Income Taxes (by Geographic Segment)
775000 - Disclosure - Discontinued Operations and Disposal Groups
775100 - Disclosure - Discontinued Operations and Disposal Groups (Alternative)
778000 - Disclosure - Extraordinary and Unusual Items
780000 - Disclosure - Earnings per Share
780100 - Disclosure - Earnings Per Share, Basic (Alternative)
780200 - Disclosure - Earnings Per Share, Diluted (Alternative)
790000 - Disclosure - Segment Reporting
800000 - Disclosure - Business Combinations
800500 - Disclosure - Business Combinations (Netting Alternative)
802000 - Disclosure - Reorganizations
805000 - Disclosure - Derivative Instruments and Hedging Activities
805500 - Disclosure - Derivative Instruments and Hedging Activities (Reclassification to Earnings Alternative)
815000 - Disclosure - Fair Value Measures and Disclosures
815050 - Disclosure - Fair Value Measures and Disclosures (First Alternative)
820000 - Disclosure - Foreign Operations and Currency Translation
831000 - Disclosure - Leases
831500 - Disclosure - Leases, Capital (Netting Alternative)
840000 - Disclosure - Nonmonetary Transactions
845000 - Disclosure - Related Party Disclosures
865000 - Disclosure - Transfers and Servicing
865500 - Disclosure - Transfers and Servicing - Pledged Securities Not Reported
870000 - Disclosure - Subsequent Events

In addition to common disclosures, many industries have industry specific disclosures:

Figure 15. Sample of Industry-specific Disclosure Relationship groups.

910000 - Disclosure - Contractors
915000 - Disclosure - Developing Stage Enterprises
939000 - Disclosure - Financial Services, Federal Home Loan Banks
940000 - Disclosure - Financial Services, Banking and Thrift
940050 - Disclosure - Financial Services, Banking and Thrift, Interest

940051 - Disclosure - Financial Services, Banking and Thrift, Interest (Interest Income by Security Taxable Status Alternative)
940052 - Disclosure - Financial Services, Banking and Thrift, Interest (Interest Income by Security Type Alternative)
940100 - Disclosure - Financial Services, Banking and Thrift (Deposit Liabilities Alternative)
940200 - Disclosure - Financial Services, Banking and Thrift (Foreign Deposit Liabilities Alternative)
940300 - Disclosure - Financial Services, Banking and Thrift (Deposit Liabilities by Customer Alternative)
940500 - Disclosure - Financial Services, Banking and Thrift (FHLB Advances by Interest Rate Type Alternative)
942000 - Disclosure - Financial Services, Brokers and Dealers
942500 - Disclosure - Financial Services, Brokers and Dealers (Fair Value Alternative)
943000 - Disclosure - Financial Services, Brokers and Dealers (Excess Net Capital Alternative)
944000 - Disclosure - Financial Services, Insurance
944500 - Disclosure - Financial Services, Insurance (By Type Alternative)
948000 - Disclosure - Financial Services, Mortgage Banking
955000 - Disclosure - Health Care Organizations
965000 - Disclosure - Extractive Industries
975000 - Disclosure - Real Estate
980000 - Disclosure - Regulated Operations
985000 - Disclosure - Other Industries
993500 - Disclosure - Investment Holdings
993510 - Disclosure - Other than Securities Investment Holdings
993520 - Disclosure - Summary of Investment Holdings
993530 - Disclosure - Investments Federal Income Tax Note
993540 - Disclosure - Investments Sold Not yet Purchased
993550 - Disclosure - Investments Sold Not yet Purchased, Form SH
993560 - Disclosure - Open Option Contracts Written
993570 - Disclosure - Investments in and Advances to Affiliates

SEC filers in different industries have different schedules which they must submit with their financial reports:

Figure 16. Sammple of SEC-Specific Disclosure Relationship groups.

991000 - Disclosure - SEC Schedule, Article 12-04, Condensed Financial Information of Registrant
993000 - Disclosure - SEC Schedule, Article 12-09, Valuation and Qualifying Accounts
993200 - Disclosure - SEC Schedule, Article 12-28, Real Estate and Accumulated Depreciation
993400 - Disclosure - SEC Schedule, Article 12-29, Mortgage Loans on Real Estate
993600 - Disclosure - SEC Schedule, Article 12-15, Summary of Investments - Other than Investments in Related Parties
993800 - Disclosure - SEC Schedule, Article 12-16, Supplementary Insurance Information
994000 - Disclosure - SEC Schedule, Article 12-17, Reinsurance
994200 - Disclosure - SEC Schedule, Article 12-18, Supplemental Information (for Property-Casualty Insurance Underwriters)

3.3 Tables, Line Items, Axes and Members

Tables, and their components, direct, control, and, where possible, make unnecessary the need for preparers to add additional financial reporting concepts to the GAAP taxonomy.

- **Line Items** – A set of reporting Concepts grouped together because the facts that they refer to would be repeated a number of times within a given filing. More generally, any facts that require special qualification to distinguish them from other facts in the same report (e.g. an "original" and "restated" figure) would implicitly be a set of Line Items.

- **Domains and Members** – A member is a concept whose only purpose is to further qualify facts associated with a Line Item. A domain is then simply a list of members. For example, "Equity" and "Debt" may be members of a Domain "Financial Instrument". Just like ordinary concepts, the same domains and members may appear in many different Statement and Disclosure relationship groups. Domains may also contain other domains, in a hierarchical arrangement.

- **Table** – The combination of a set of Line Items with one or more domains, to allow the possibility for the same financial concept to appear multiple times in an instance document.

- **Axis** – Because the same Members may appear in different Tables, it is necessary to be specific for any given table, which domains are used in what ways. An Axis binds the Table to a domain. Also, it is convenient to specify a default member to use when none is provided for a fact in a table, and the Axis contains this information.

Almost every relationship group include the set of Tables that are normally associated with that Statement or Disclosure, and each of these Tables has at least one Axis in addition to the Line Items of the relationship group. This makes sense because financial statements often contain one or more tables. For example, a schedule of financial highlights for subsidiaries, would use existing line items and be organized across the horizontal or vertical along a Business Segment axis. A Table of investments would need an Axis that made reference to the Instrument domain.

A small sample of the domains and members is shown in Figure 17, below. The domain element itself is the default member, so as to make the dimension completely transparent to most preparers.

Figure 17. Sample Domains and Members Appearing in the US GAAP Financial Reporting Taxonomy Logical Model

Domain Name	Typical members, as provided in US GAAP Financial Reporting Taxonomy	Sample members in a company extension
Geographic Area of Oil Production		"North Sea", "Permian Basin"
Business Acquisition	"Series of Individually Immaterial Business Acquisitions"	"Acquisition of StreetWise Software, Inc."
Change in Accounting Estimate	"Depreciable Assets", "Intangible Assets, Amortization Period", "Warranty Obligations", "Inventory Valuation and Obsolescence"	
Deferred Revenue Agreement Type	"Software Licensing", "Subscriptions"	"Volume Licensing"
Jointly Owned Utility Plant	"Electricity Plant", "Nuclear Plant", "Electricity Transmission and Distribution System"	"Battersea Power Station", "Seabrook"

The empty cells in the figure above indicate that no members would be provided by the taxonomy because the members would always be company specific. One default member may be provided to facilitate aggregation of company specific members. Users could create extension taxonomies to facilitate additional comparability. For example, say the retail industry had a standard set of geographic segments used by all companies in that industry. That group could publish a set of domain members used by retail industry companies to enable comparability between them.

3.4 Consistency and Comparability

US GAAP Financial Reporting Taxonomy stakeholders including regulators and analysts have ensured that there are documented requirements and explicit goals regarding extensions [REQ]. A key goal is to limit the need for extensions, to facilitate period-to-period and cross-industry extensions. Similarly, where extensions are needed, the goal is to limit and direct

those extensions to stay within a "safe zone" where XBRL and XBRL-enabled software is known to work well.

To review the motivations for this, imagine that a high quality, consistent taxonomy were created and published. Almost every filer will find a need to extend it. Imagine that these users: (a) are not as careful about the creation of their extension taxonomies and/or (b) all use different approaches to extending a taxonomy for exactly the same type of extension scenario. This will result in:

- Usability issues—just as a "chain is a strong as its weakest link," a taxonomy is as sound as its lowest quality point.

- Comparability issues—if, for example, the SEC wishes to compare Company A and Company B, yet each company used different approaches to extension, comparability is compromised.

Not providing information related to expected extension has been shown to lead to inconsistent extensions, extensions that do not follow known best practices, and even illogical extensions. This makes working with an instance document more challenging. Moreover, there are certain areas where concepts should *never* be extended. For example, preparers should not extend "Assets" to create a new classification of "Assets"; the "Assets, Current" and "Assets, Noncurrent" cover 100 percent of the possible classifications of assets. Channeling extensions to or using "disciplined extensions" or "managed extensibility" facilitates consistency and therefore increased comparability.

Within the TAG, addressing this need has been called "Disciplined Extensions." Furthermore, TAG has articulated the notion of "extension points." An *extension point* is a place in the taxonomy where the designers expect that some filers will want to add detail.

Most domains qualify as the root of an extension point: Domains provide some discipline on extensions by providing the explicit concepts to be extended. Specifically, many extensions may require little more than adding additional members to an existing domain.

However, in other cases, filers and other supply chain participants such as analyst groups need further flexibility to define *GAAP and non-GAAP concepts* that are not present in the taxonomy.

Systems that implement the architecture are expected to provide mechanisms for providing discipline around the extension of the base taxonomies. One example of providing such discipline or "channeling" or "management" of extensions is the compact pattern declaration (CPD). The CPD is a formal XML representation of a pattern [PATTERNS] that allows software to help a user follow exactly the same pattern and rules that were used to construct the architecture itself. During development of the architecture, CPDs have been used to define tests that are used to test every new build of the taxonomy to help ensure that similar patterns are represented in the same consistent way throughout the taxonomy.

3.4.1 DELETED

3.5 Change/Life Cycle

Changes to XBRL, the financial reporting standards, and the taxonomy will be managed via a versioning mechanism explicitly created for XBRL taxonomies.

3.5.1 Types of changes anticipated

The following is a summary of the kinds of changes anticipated to occur to and within the US GAAP Financial Reporting Taxonomy and how they would impact the architecture:

- Additions of concepts due to new financial reporting standards issued by the FASB, or discovery that necessary existing concepts were omitted, addition of new schedules or other relationship groups, etc.

- Deprecation of obsolete or erroneous concepts, obsolescence of entire relationship groups, etc.

- Changes to concepts (i.e. bug fixes) such as changing a balance attribute or periodType attribute, etc.

- Changes to relations (create new, drop existing, or change information relating to an existing relation).

- Changes to resources (create new resources such as a label or reference, drop existing resources, or change information contained in an existing resource).

- Addition, changes to, or removal of schema or linkbase files.

- Addition of new features to the taxonomy such as the inclusion of XBRL Formulas when that specification reaches the status of XBRL International Recommendation.

Changes which are considered out of scope and will not be addressed currently include:

- Changes to the XBRL 2.1 specification, FRTA 1.0, XBRL Dimensions 1.0 or other modules of XBRL.

- Changes to US GAAP Financial Reporting Taxonomy user extension taxonomies.

- Changes to US GAAP Financial Reporting Taxonomy user instance documents.

3.5.2 Communication of changes to taxonomy users

Changes to the taxonomy will be communicated to taxonomy users in order that they may update their systems for such changes via the versioning mechanism provided. This mechanism will include both human readable information and information which is consumed by an application that would be used to update a taxonomy user's system.

4 Physical Model

The physical model is how the US GAAP Financial Reporting Taxonomy v1.0 will physically implement the logical model within the constraints of what XBRL has to offer. It is the actual physical XBRL files, themselves.

4.1 Overview of Physical Model

For the most part the implementation of the physical model simply maps the logical model to corresponding constructs in XBRL.   Concepts introduced at this level, as discussed in the overview, are:

- **All US GAAP concepts within one XML Schema** – The logical model allows concepts to be physically located within one physical file or partitioned into multiple physical files. The physical model places all US GAAP reporting concepts within one file, so that one "monolithic" set of concepts will exist.   Placing all concepts within one physical file presents few problems from a processing standpoint.   Because concepts are so inter-linked, it is possible that partitioning by (say) relationship groups would result in the use of any concept ultimately pulling all of the others into its DTS.   Eventually some agreement may be reached on how to actually physically partition concepts into multiple physical files, based on empirical analysis of the behavior of actual financial reports.

- **Minimize "Moving Parts"** – A number of XBRL syntax features are not used in the US GAAP Financial Reporting Taxonomy Architecture. These redundant options were not used in order to maximize the ability to extend the taxonomy and minimize inconsistencies between these extensions.   For example, tuples were removed from consideration as everything tuples provide can be provided by XBRL Dimensions and XBRL Dimensions provides even more functionality and flexibility.   Likewise XBRL Dimensions typed members were not used as all use cases can be effectively met using explicit members.

The final component of the physical model for systems making use of the architecture must consider the physical characteristics of extension taxonomies. Systems are encouraged, but certainly not required, to follow the characteristics of the architecture. These restrictions create somewhat of an application profile. This allows for reduced effort by software vendors implementing XBRL for the architecture, as well as enhanced usability, and reduced effort on the part of business users to learn to use XBRL.

4.2 XBRL Implementation of Relationship groups

Relationship groups appear in the taxonomy as sets of XBRL arcs in presentation, definition and calculation extended links. Each extended link has a unique name within the URI which also serves as the ID of the extended link role. Each view is in a separate file and uses a link role of the following syntax, depending on which type of extended link it appears on:

```
http://fasb.org/us-gaap/role/{statement | disclosure | document}/{unique name}
```

This results in a large number of distinct presentation, calculation, and definition linkbase files. There are so many files that a numbering convention was added to the "definition" field of the extended link in order to facilitate sorting of the extended links. Figure 13 above shows how the numbering scheme facilitates sorting.

Relationship groups do not include other relationship groups. Arcs simply appear as copies in different relationship groups, even if they would normally have the same concepts in the same arrangement. For example, parent-child arcs descending from the "Cash Flow from Financing Activities" reporting concept would typically be the same in both a "Cash Flow Statement, Direct" schedule and "Cash Flow Statement, Indirect" schedule, so those arcs appear once in each of the two schedules.

Relationship groups also help software to have enough information to create human-readable renderings of the information within an XBRL instance document.

The market and individual reporting entities will create additional linkbases useful for the creation and analysis of instance documents.

Experience during development and use has shown that it is important for usability to identify the primary set of arcs for any given view. The "primary" set of arcs for any given relationship group are the presentation arcs.   The presentation arcs, along with an indication of its preferred label, need to compactly display as much information as possible about concepts' role in calculations or within a table. Indeed, the presentation linkbases, along with the labels of concepts, are sufficiently regular and consistent that they allow dynamic generation all of the dimensional specification arcs needed. For more detail see Section 4.5 below. This same level of consistency does not yet apply to the relationship between presentation and calculation arcs, although it is *usually* the case that any concept that is the source of a summation-item arc will have a "total" label and that it will appear as the last item in a list of concepts, and have a preferred label calling out that "total" label.

All reporting concepts are in a single namespace in the same schema file. Likewise, standard labels, labels with "documentation" label role, and references are each located in a separate linkbase file: one file for standard labels, one for documentation labels, one for references. Labels, definitions, and references for other supporting file names parallel the separate schema files.

4.3 XBRL Implementation of Industry Entry Points

Entry points are implemented as schemas.

Each reporting industry has at least one master entry point with references to the relationship groups the industry might use. For example, each master entry point will contain both a cash flow statement using the direct method and a cash flow statement using the indirect method, even though one filer would never report both cash flow statements. Filers and others can use the master entry points to view the entire taxonomy or save a copy of the entry point XML schema, deleting the unwanted components, possibly adding extension components, and then using that new copy as the DTS entry point to their business report.

Each reporting industry may also have separate entry point schemas for subsets of relationship groups commonly used together. Examples may include:

- All relationship groups for a typical set of income statement, balance sheet and cash flow statements;

- All relationship groups including notes and disclosures for a typical financial statement.

An entry point usable for each possible permutation and combination of filing will NOT be provided; filers will be expected to create their own DTS entry point, because as the number of permutations and computations is too large.

The following is a listing of DTS Industry Master Entry Points; the sub industries were shown earlier in Figure 4, and each sub industry also has (at least) a master entry point.

Figure 18. Industry Master Entry Points

DTS Industry Entry Point	Description	Abbreviation
Commercial and Industrial Companies	Financial information used by commercial and industrial companies	ci
Real Estate	Financial information used by real estate companies	re
Banking and Savings Institutions	Finanial information used by banking and savings institutions	basi
Insurance	Financial information used by insurance companies	ins
Brokers and Dealers in Securities	Financial information used by brokers and dealers in securities	bd

4.4 XBRL Implementation of Narrative and Other Concepts

The logical model of narratives addressed one of the main challenges as described in the UGT Requirements [REQ] by distinguishing report fragments from reported facts, and focusing on modeling of reported facts. This much is necessary, but there are other requirements restated here.   These functional requirements remind us that the US GAAP Financial Reporting Taxonomy design exists within an overall process framework in which different actors will need different properties at different times.

Figure 19. Functional Requirements Relating to Narratives

ID	Functional Requirement (copied from Requirements document)
F01	UGT must provide sufficient structure that commonly available software applications can provide a readable display of a valid instance document to knowledgeable users. The relationship between the concepts used in the instance and how they appear and relate to one another must be predictable and controllable.
F02	UGT should group disclosures that can be presented in a table format to facilitate formatting of information. Information about the intended ordering and tabular layout of information in a UGT instance, *if* provided in an agreed manner, must be respected.
F04	Narrative concepts in the UGT should allow different content for different reports while preserving commonality of topic; for example, "earnings per share discussion" is a common topic and therefore should be a tag, even though different companies will explain their EPS differently as text within that concept.
F05	Information about facts that impact consistency cannot be "buried" in free format text concepts; UGT must provide a way to indicate any and all reporting criteria to which the text applies.

The logical model of narratives meets only minimum criteria. The physical model purposely uses only those XBRL constructs that facilitate more sophisticated, modular approaches to modeling the relationship between report fragments and facts. In the short term, a module called "mixed XBRL" [MX] was developed within the initial US GAAP taxonomy project as a proof of concept; it has the key advantage of allowing a single file to contain XBRL items and contexts embedded into files that can be either transformed into "flat" XBRL or into pure HTML.   The idea of mixed XBRL evolved into Inline XBRL as an XBRL International Recommended Specification that is also applicable to other taxonomies besides the US GAAP Financial Reporting Taxonomy. While Inline XBRL is not currently in use for SEC filers the architecture does not limit implementation of this solution when deemed appropriate.

4.4.1 Relations between concepts and presentations

Data (fact values) of financial concepts within, say, a financial statement are generally not used in isolation. These concepts are bound together in tables, columns of information, data imbedded within textual information, and such. This information, in many cases "flows" and must be consumed in a linear manner to be appropriately understood.

XBRL syntax constrains the possible ways in which a logical model of an instance (and hence of narratives and notes) can possibly be realized. These considerations lead to the following design:

1. Instances consisting solely of facts with *no* layout information are modeled as a "flat list" with no expectation that the contents of any fact element need to be disjoint.   In particular, a "text block" of an entire note can coexist with a token for each individual disclosure or a numeric concept for just a single number within some disclosure.

2. Additional fact values can provide details of numeric values contained within text blocks, if desired.

4.4.2 Concept types

The logical model provides categories of reporting concepts as Narratives, Tokens, Numbers and Abstracts. The following is a summary of XML schema types that implement these categories. Types are defined within a schema with namespaces beginning with http://fasb.org/us-types. Generally, types were defined where XBRL types were not sufficient to meet the desired needs of the taxonomy. Note that all types defined have the suffix "…ItemType", consistent with XBRL International type definitions. Figure 20 consists of examples at the current time, pending creation of custom types.

Figure 20. Sample XML Schema Types Defined

Type Name	Description
perUnitItemType	(Earnings) per Unit type, a specialization of the monetaryItemType.
MalpracticeInsurance-OccurrenceOrClaims-madeItemType	A finite list of tokens: Occurrence, Claims-made.
MalpracticeInsurance-RetrospectivelyRatedItemType	A finite list of tokens: Yes, No.

4.5 Implementation of Tables

The logical model for facts relies on the context of a fact, to distinguish between different uses of the same concept within facts reported in an instance. The logical model is mapped to XBRL syntax [XBRL] [DIM] as follows:

- Each Table has:

    o One abstract element in the `xbrldi:hypercubeItem` substitution group whose standard label has the suffix [Table].

    o One abstract element of type `xbrli:stringItemType` whose standard label has the suffix [Line Items]. The [Line Items] element is the last presentation child.

    o One or more abstract elements in the `xbrldi:dimensionItem` substitution group whose standard label has the suffix [Axis], and which are presentation children of the [Table].

    o A domain element of type `xbrli:domainItemType` as sampled in Figure 17, above. This is also used as the dimension default.

    o Dimensional arcs (all, hypercube-dimension, dimension-domain, domain member and dimension-default) in an extended-type link whose role is the same as the presentation linkbase role. Figure 22 below shows the exact correspondence. None of these arcs have a `xbrldt:targetRole` attribute.

    o (Optionally) A set of domain members that are presentation descendants of the [Axis] elements. Because there is potential for confusion of domain member name with another reporting concept, the member has the standard label suffix [Member].

Figure 21. Example Table

Parent-child presentation with standard labels	Type	Subst. Group	Abstract
Acquisitions [Table]	string	hypercubeItem	Yes
• Acquisition [Axis]	string	dimensionItem	Yes
o Acquisition – Description [Domain]	domain	item	No
• Acquisition [Line Items]	string	item	Yes
o Acquisition – Interest Acquired	percent	item	No

o Acquisition – Asset Acquired	monetary	item	No
o Acquisition – Asset Acquired, Accounts Receivable	monetary	item	No
o *... additional concepts …*			

Figure 22. Correspondence of Presentation to Definition arcs

Presentation Parent Label	Presentation Child Label		Definition Source	Definition Target	Definition Arc Role (attribute value)
[Table]	[Line Items]		[Line Items]	[Table]	all (with contextElement = segment)
[Table]	[Axis]		[Table]	[Axis]	hypercube-dimension
[Line Items]	Any descendant		[Line Items]	Any descendant	domain-member
[Axis]	[Domain] or [Member]		[Axis]	[Member]	dimension-domain
[Axis]	[Domain] or [Member]		[Axis]	[Member]	dimension-default

Some of the uses of dimensions, in theory, could have been done using tuples. However, as the result of a thorough analysis [TUPLE] the architecture uses no tuples at all. The analysis sought to determine when it was appropriate to make use of tuples to solve a taxonomy modeling use case, when to use XBRL Dimensions, and to document the precise rules for determining which to use as clearly as possible. The result was that tuples should not be used at all for data.

The fundamental reason is that it is much easier to map information that is "flat," as is the case with XBRL Dimensions (only items exist within the taxonomy). XBRL is a normalization of XML following the approach referred to as "Canonical XML" and widely used to map XML files to and from Relational and Multidimensional databases. Tuples is an area where XBRL is not normalized. Additional reasons to exclude tuples in favor of dimensions are these:

• Tuples are difficult to extend, and it is known that the taxonomy will be highly extended.

• Tuples only can be used to express one hierarchy, but multiple hierarchies are required, as well as nested hierarchies.

• Tuples offer poor comparability, and comparability is desired.

• Tuples offer no way to "filter" data, and this issue is exacerbated by the poor comparability features of tuples.

• Tuples offer poor ability to express computations. This is also exacerbated by the poor ability to filter and articulate information so that it is comparable.

• Each of the USFRTF Patterns Guide tuple-based patterns has successfully been re-articulated using the XBRL Dimensions approach.

Worldwide, many developed taxonomies are avoiding tuples. XBRL Dimensions can be used to achieve everything that tuples offer, with better extensibility, an ability to express hierarchies, better comparability, better filtering, and better computations.

Removing tuples renders the decision of when to use tuples and when to use XBRL Dimensions -- a question that will be asked by thousands who will extend the taxonomy -- moot.

An 'Essential XBRL' application profile in which vendors would not have to provide any validation, rendering or other support for typed dimensions nor for tuples would lower the hurdle for many vendors and implementations, while being fully adequate for supporting the architecture.

4.6 DELETED

4.7 Implementation of Versioning Policies

The physical implementation of versioning will be done via international versioning conventions, preferably using the XBRL International Versioning specification. That versioning specification will not be available when the taxonomy is released. Therefore, some alternative expected to be as close as possible to the XBRL International Versioning specification will be used in the interim.

The following are the types of changes which would be expected to impact the physical layer:

- A change which would cause a change to the XBRL namespace, which would be a change in XBRL itself.

- A change which would cause changes of locations of schemas. This is anticipated to occur on an annual basis, at most.

- A change which would cause adding a new extension, basically adding a new schema or a new linkbase (which would not impact the schemas or linkbases which already exist). These types of new extensions might be added quarterly.

5 DELETED

6 DELETED

7 References (non-normative)

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             UGT Compact Pattern Declaration Module

[DIM]   Ignacio Hernández-Ros, Hugh Wallis
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[FASB]   FASB Codification and Retrieval Project
             http://asc.fasb.org/

[FRTA]   Walter Hamscher (editor).
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[LRR]   Walter Hamscher (editor), David Sheldon, Hugh Wallis
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             version was updated 2008-07-31 and published 2008-09-15 and replaces the original
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[UML]   Unified Modeling Language 2.1
             http://www.uml.org

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             http://www.xbrl.org/taxonomy/us/TaxonomyFrameworkOverview.htm

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             Extensible Business Reporting Language (XBRL) 2.1 Recommendation with
             corrected errata to 2006-12-18
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8 DELETED

9 DELETED

10 Document History (non-normative)

Date	Editor	Summary
2007-06-01	Hoffman	Revised first draft of this document taking into consideration the initial shell architecture draft created by Walter, the outline create by Mark Montoya, the existing UGT-Prototype2, etc.
2007-06-04	Hoffman	Built out document. Added all design rules, mapping them to both the UGT-Requirements and UGT-Choices Document.
2007-06-05	Hamscher	Initial comments and edits.
2007-06-11	Hamscher	Aligned actors with names in the figures.
2007-06-21	Hoffman	Accepted changes related to reorganization of the document so we can better see marginal changes hereafter.
2007-06-24	Hoffman, Montoya	Reorganized document trying to get the flow where we need it. Addressed WcH comments. If addressed, comment removed. If not addressed, comment was made consistent with CSH and CB comments, as text in the document as opposed to Word comments.
2007-07-02	Hoffman	Added information from TAG conference call relating to decisions relating to the use of tuples, mixed XBRL Module, Disciplined Extensions Module, Versioning Module, etc.
2007-07-06	Hamscher	Large editing pass to focus document on key design points at different levels of detail.
2007-07-09	Binstock	Added CPD sections.
2007-07-11	Hoffman	Synchronized this document to UGT-Prototype, and UGT-Prototype to this document (namespaces, file names, etc). Proofread entire document. Some additional content added.
2007-07-11	Hamscher	Editing pass, text cleanup, moving marginal comments inline, removing text not needed for initial document release.
2007-07-23	Hamscher	Editing pass incorporating domain working group requests to remove references to Topics. Added Figure captions and Table of Figures.
2007-07-27	Hoffman	Built out and tuned existing design rules.
2007-08-27	Hoffman	Incorporated feedback from PWD comments.
2007-08-30	Hoffman	Incorporated edits relating to conference call where the public comments were reviewed and discussed.
2007-08-31	Hamscher	Editorial pass over new material, correction of references, figure naming, etc. Truncation of CPD material to indicate a thematic direction how to evolve the foundational patterns work, and refer to its use internally to the project, without requiring the architecture to commit to a particular syntax or set of patterns.
2007-09-01	Hoffman	Edits to section on physical implementation of relationship groups so as to align with current draft taxonomy.
2007-09-02	Hamscher	Minor editorial pass over figures, numbering etc.
2007-09-08	Hoffman	Incorporated release extended links.
2007-09-09	Hamscher	Another editorial pass over figures, corrections and removal of comments.
2007-09-18	Hoffman	Modified references to the mixed XBRL and CPD.
2007-09-21	Hoffman	Synchronized architecture document to physical instantiation of UGT, making adjustments.

Date	Editor	Summary
2007-09-24	Hamscher	Edits to bring architecture document into close alignment with the 2007-12-31 taxonomy, including correction of discrepancies identified by Phillip Engel. Removed majority of the Narratives section to clarify that mixed XBRL is a separate, optional module developed within the project but not yet formally part of the architecture. Removed 'schedule' from the type of content represented by a distinct extended-type link. Correct all statements about the physical packaging of files to take into account the non-GAAP taxonomies. Remove overly specific references to Investment Management while indicating that this is part of future releases. Rewrite sections about dimensions to conform to current implementation, including removal of specific dimensions and domains not yet appearing in the taxonomy. Correct namespace references. Remove undefined (and non-LRR) label roles. Add file dates and corrected names; edit to references regarding FRTA 1.0 compliance; removal of design rules that cannot be complied with because they apply to instances or extensions; correction of type definitions to conform to types actually appearing in the taxonomy.
2007-10-10	Hamscher	Namespace edits, removal of sections with design rule and testing details that remain under development.
2007-10-22	Hamscher	Removed sections on Physical Components and Test Cases, to be provided as a separate document. Removed section summarizing internal supporting documents. Rewrite sentences about use of CPD during taxonomy development. Remove Investment Management everywhere other than the domain model. Edited list of statements provided, repaired file dates.
2007-12-05	Hamscher	Edits to adjust names, role definitions, scope of content, and other implementation details to conform to the taxonomies version 1.0 of this date.
2010-08-16	Hamscher	Distinguish between US GAAP and non-GAAP content and discuss only US GAAP content. Generalize material to apply to 1.0 as well as subsequent taxonomies published since 2008. Remove material no longer relevant.
2010-08-25	Matherne	Edit to update copyright and authorized use. Additional changes to reflect US GAAP only content and to more closely conform content to the 2011 US GAAP Financial Reporting taxonomy DRAFT. This change includes removing references to elements characterized as [Domain], which are now referred to as [Member] inaccordance with the ITA convention.
2011-01-11	Matherne	Edits to conform to final 2011 taxonomy release.