Understanding the Business Reporting Logical Model (BRLM)

Here is the complete BRLM diagram in the form of a mind map:

[http://www.xbrlsite.com/Demos/FRTA/ 2010-06-15/ _LogicalModels.pdf](http://www.xbrlsite.com/Demos/FRTA/2010-06-15/_LogicalModels.pdf)

Advantages of BRLM

- **Easier to use software** because users will interact at the BRLM level, not at the XBRL Syntax level

- **Consistent and comparable XBRL instance information** even if XBRL extension is allowed because how to extend an XBRL taxonomy is made clear.

- **Cross taxonomy consistency**, for example the US GAAP, IFRS, and EDINET taxonomies could use the same model (i.e. why do they have different architectures and why are they working to make the different architectures more consistent?)

- **Possibility for mass adoption of XBRL**, because it is easier to use, it works

- **Common business semantics** as compared to only global standard syntax with XBRL.

BRLM - High Level Overview
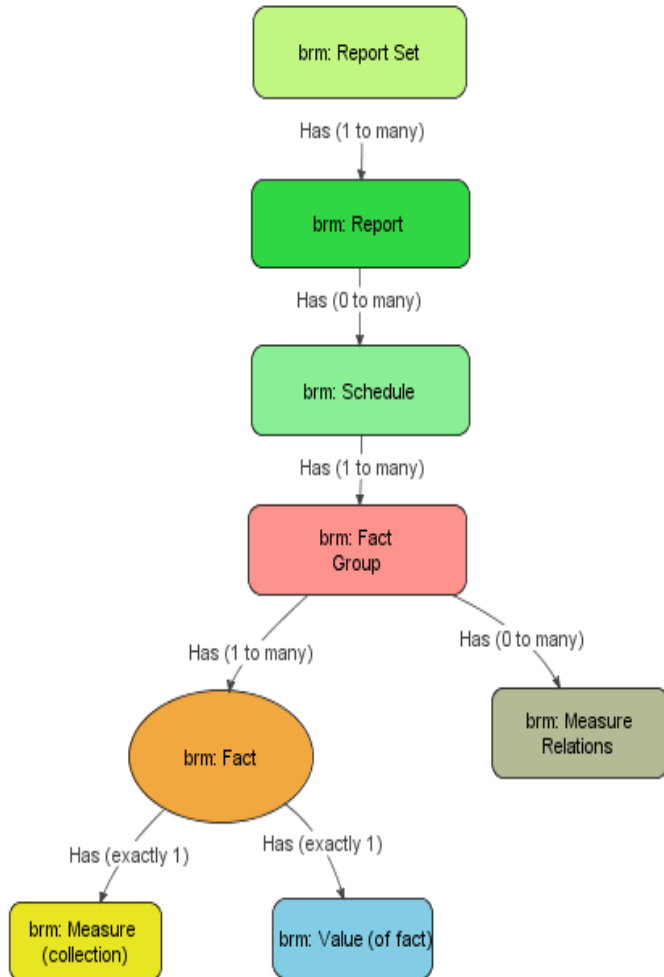
- **Report Set**: a set of business reports
- **Report**: a business report
- **Schedule**: allows for organization of fact groups
- **Fact Group**: a set of facts reported which go together
- **Fact**: information which gets reported
- **Measure Relations**: relation between facts in the Fact Group
- **Measure**: characteristics of a fact
- **Value**: value of a fact.

NOTE: A Report Set can be implemented as an RSS feed like the SEC has done. Here is an example:
http://www.xbrlsite.com/Patterns/2010-08-01/rss.xml
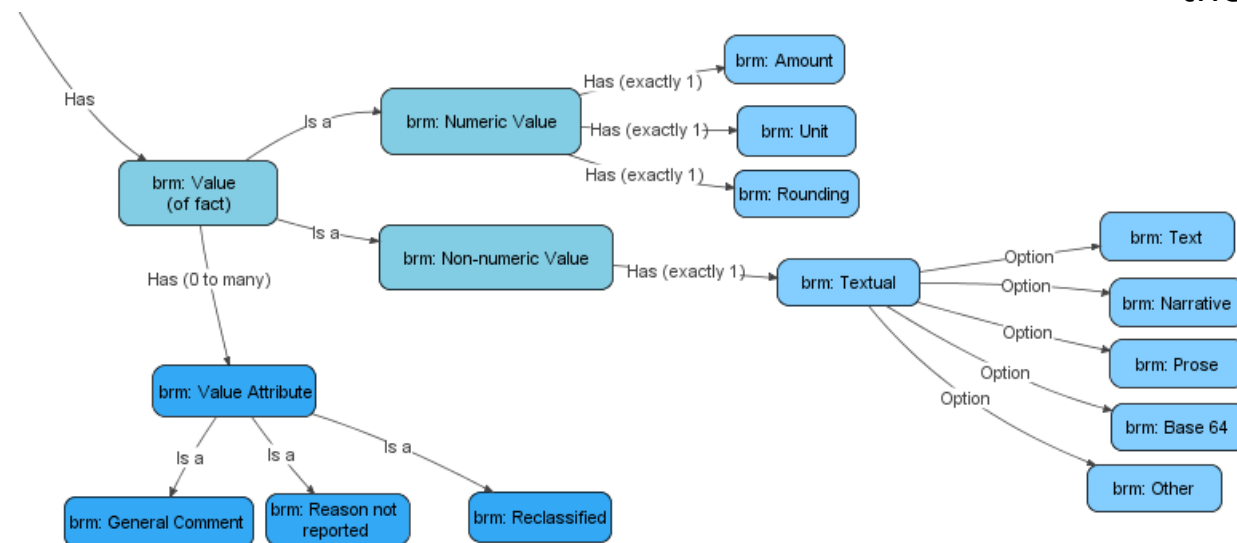
Fact

- **Fact**: a piece of information which is reported
- **A.k.a**: xbrli:item within an XBRL instance
- **Fact has Measure**: the measure is a collection of characteristics which describe the fact; measures provide context
- **Fact has Value**: the value which is being reported
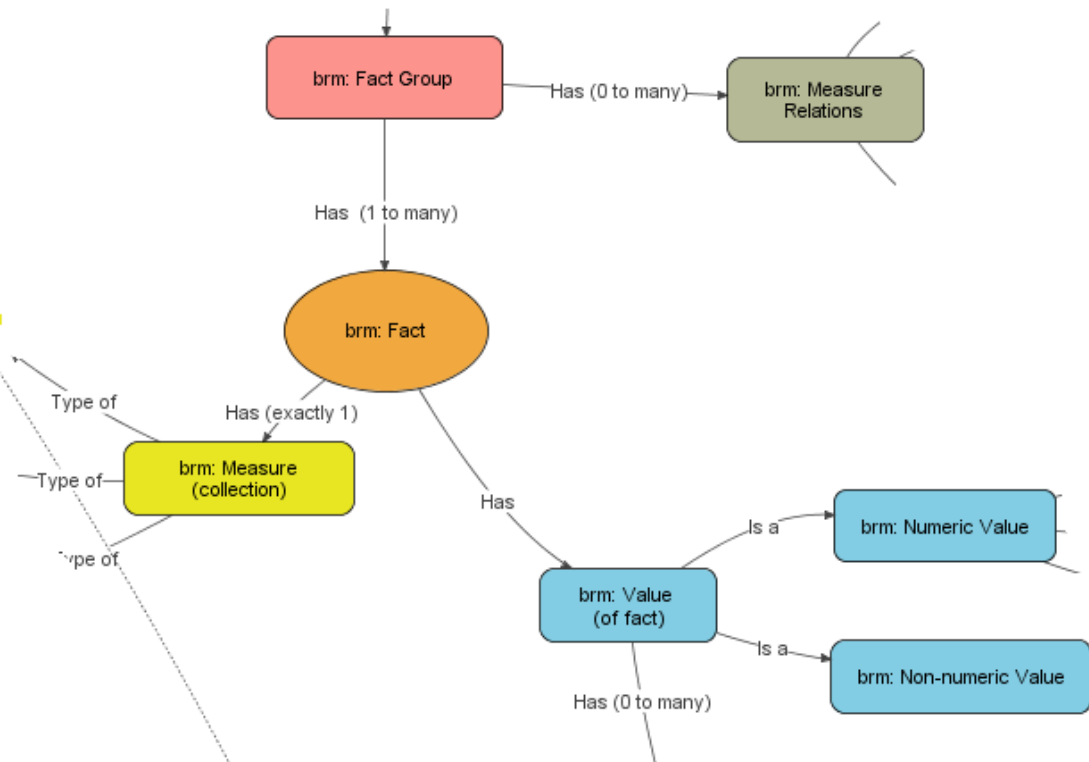
NOTE: Fact values can be numeric or non-numeric.

Value

- **Value**: the value of a Fact
- **A.k.a**: xbrli:item within an XBRL instance
- **Numeric value**: a value which MUST provide an XBRL "decimals" attribute and a reference to an XBRL "units"
- **Non-numeric value**: has no XBRL decimals attribute or reference to units.
- **Value attribute**: characteristics of the value

NOTE: XML Schema "tokens" are far better "string" data types. Strings allow line feeds, carriage returns, leading and trailing spaces, double spaces.
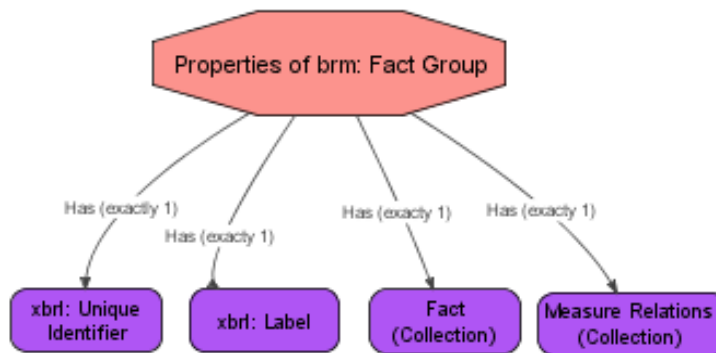
Value Attributes

- **Value attribute**:
- **A.k.a**: XBRL footnote
- **General comment**: any comment about a Fact.
- **Reason not reported**: special class of comment which explains why a fact value is "nil".
- **Reclassified**: special class of comment which provides information about reclassified facts (reported in a different way in a prior period)
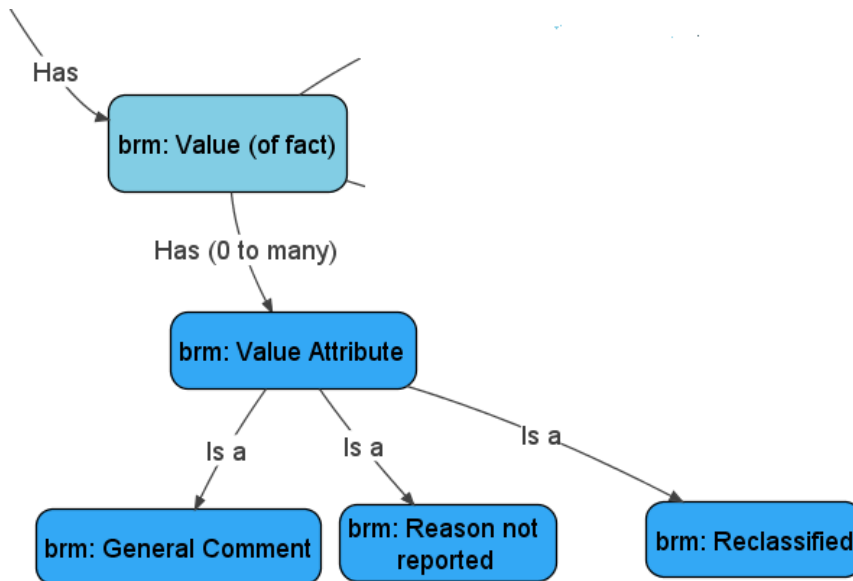
NOTE: Footnote extended link roles and arcRoles can be used to categorize XBRL footnotes for specific purposes.

Fact Group

- **Fact Group**: A set of Facts which have the same collection of measures and are generally used together for some specific purpose

- **A.k.a**: XBRL network and/or XBRL Dimensions hypercube
 - **XBRL Network**:
  - **XBRL Dimensions Hypercube**:

NOTE: What does an XBRL network represent? What does an XBRL Hypercube represent? What is the semantic relationship between a network and a hypercube?

NOTE: See this example of a Fact Group. Notice how it is a flat list of facts. See this other example, notice how it has a different set of columns across the top. That is because the characteristics of the information are different.

Measure

- **Measure**: characteristics of a Fact
- **A.k.a**: dimensions, axis
- **Measure-Concept**: subclass of measures which represents concepts
- **Measure-Context**: subclass of Measures for what is expressed by an XBRL context entity or period.
- **Measure-Characteristic**: all other Measures
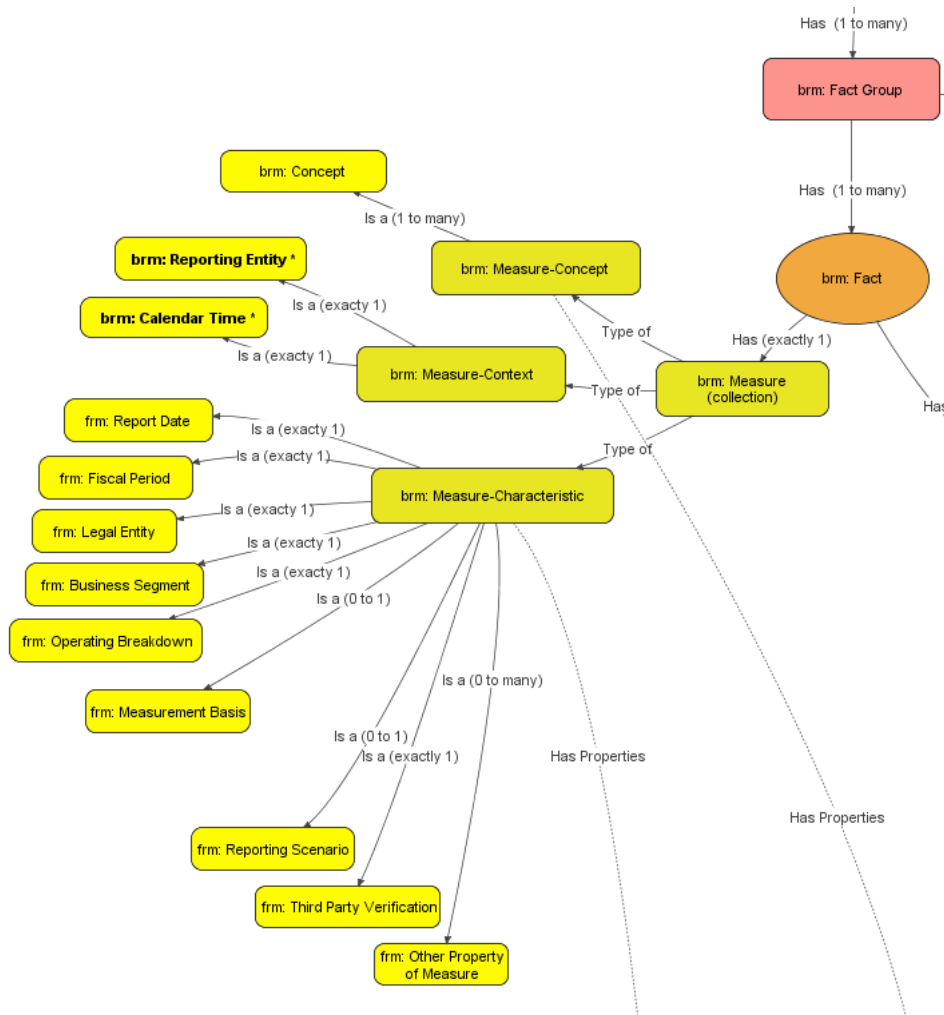
NOTE: Measures need to be broken down into these three types because there are three different ways to implement them in the XBRL syntax.

NOTE: the "brm:" measures are required by XBRL. The "frm:" measures relate to financial reporting but can be used by general business reporting.
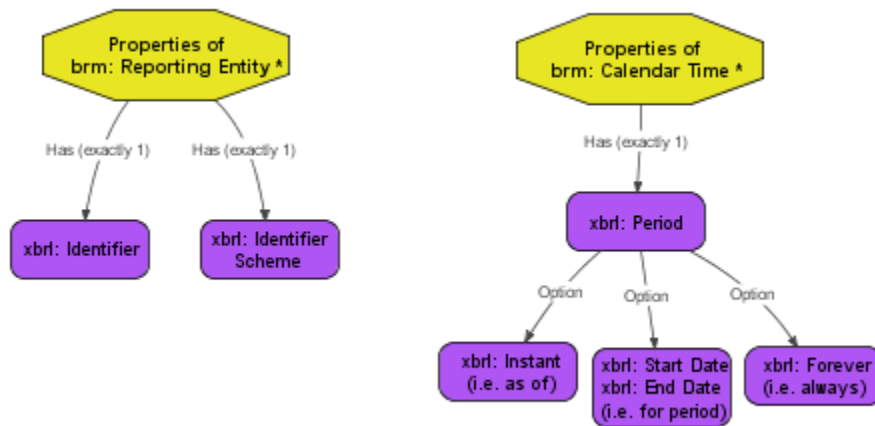
Measure-Concept Properties

- **Concept**: Financial reporting or non financial concept which describes a fact
- **A.k.a**: XBRL element; XML Schema element with a substituionGroup value of "xbrli:item"
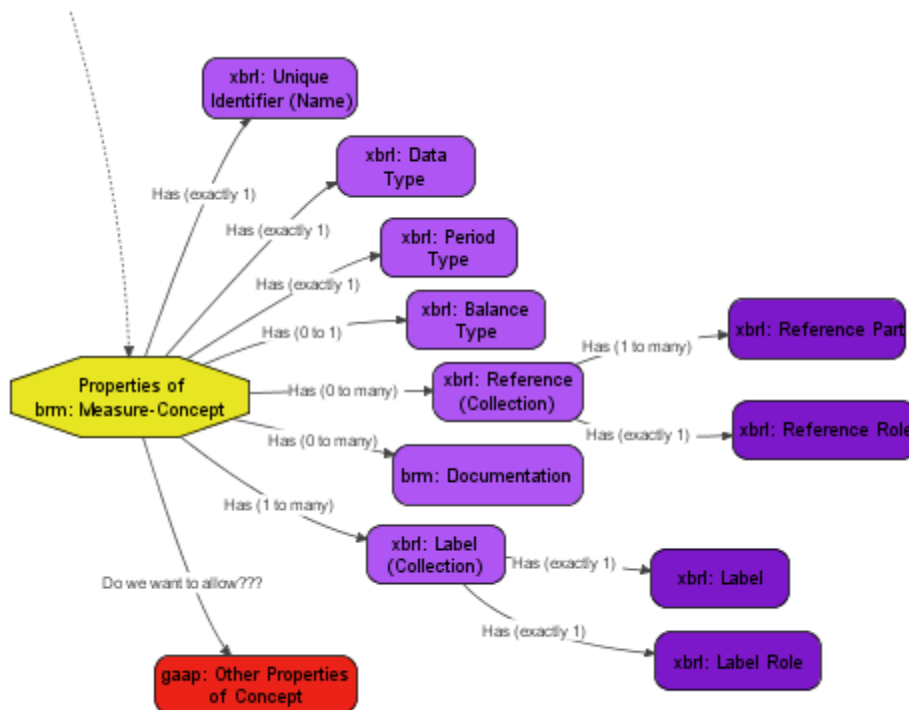
NOTE: Not all XML Schema elements are concepts. Not all XBRL elements are concepts.

Measure-Context Properties

- **Measure-Context**: a Measure which is implemented as an XBRL instance context entity identifier or period
- **A.k.a**: entity identifier, period

NOTE: XBRL instance context entity identifier and period are not constrained by XBRL Dimensions hypercubes.

NOTE: Another class of Measures is needed for XBRL Dimensions typed members which have different properties than explicit members.

Measure-Characteristic Properties

- **Measure-Characteristic**: characteristics of a Fact
- **A.k.a**: dimensions, axis
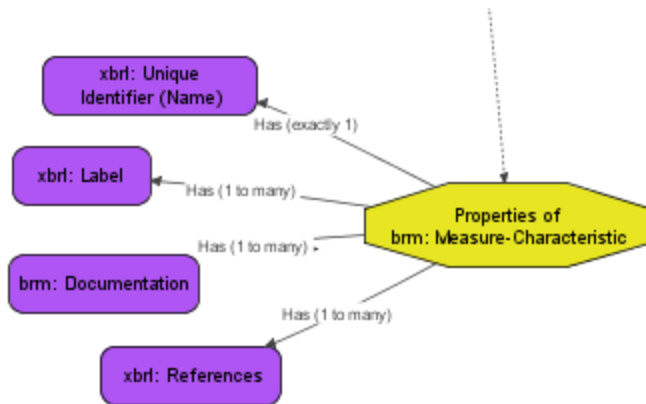
NOTE: A Measure-Characteristic is a type of XBRL element; but they are NOT concepts. The periodType, balance, and type are meaningless on a Measure-Characteristic.

Measure Relations

- **Measure relations**: the relation between the members of a Measure
- **A.k.a**: presentation relations, calculation relations, definition relations

NOTE: Hierarchy, Roll Up, Roll Forward, Other Relations are information modeling patterns (meta patterns).

NOTE: What does it mean if the presentation linkbase, calculation linkbase, and definition linkbase are inconsistent?

NOTE: Example of Measure Relations
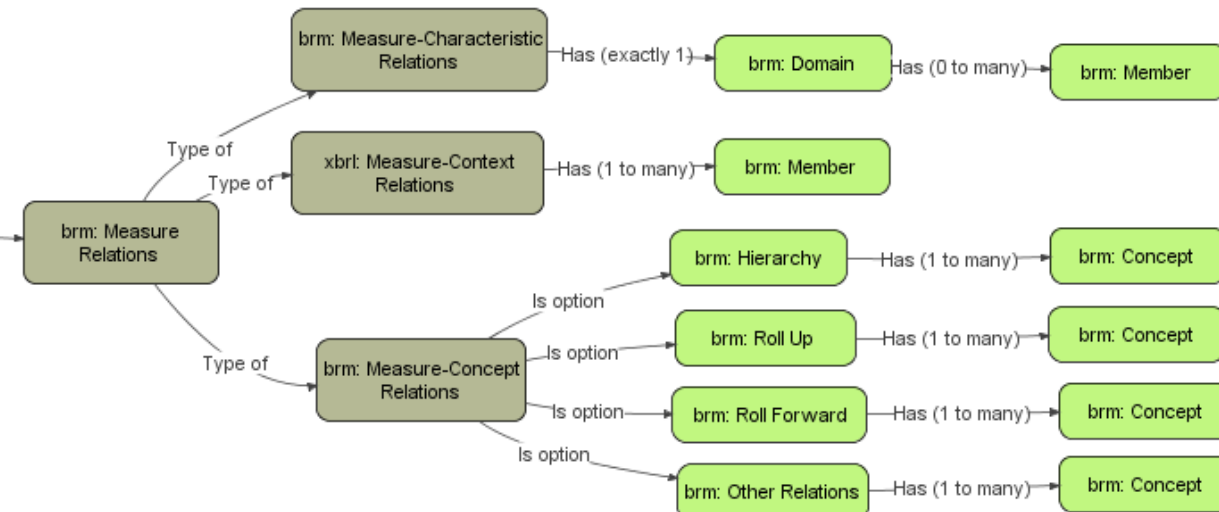
Measures for Financial Reporting

- **Measures for financial reporting**: set of measures added to the BRM which extend the BRM for financial reporting

- **A.k.a**: dimensions, axis

- **Other property of Measure**: other Member which a GAAP taxonomy of filer of financial information creates to describe information
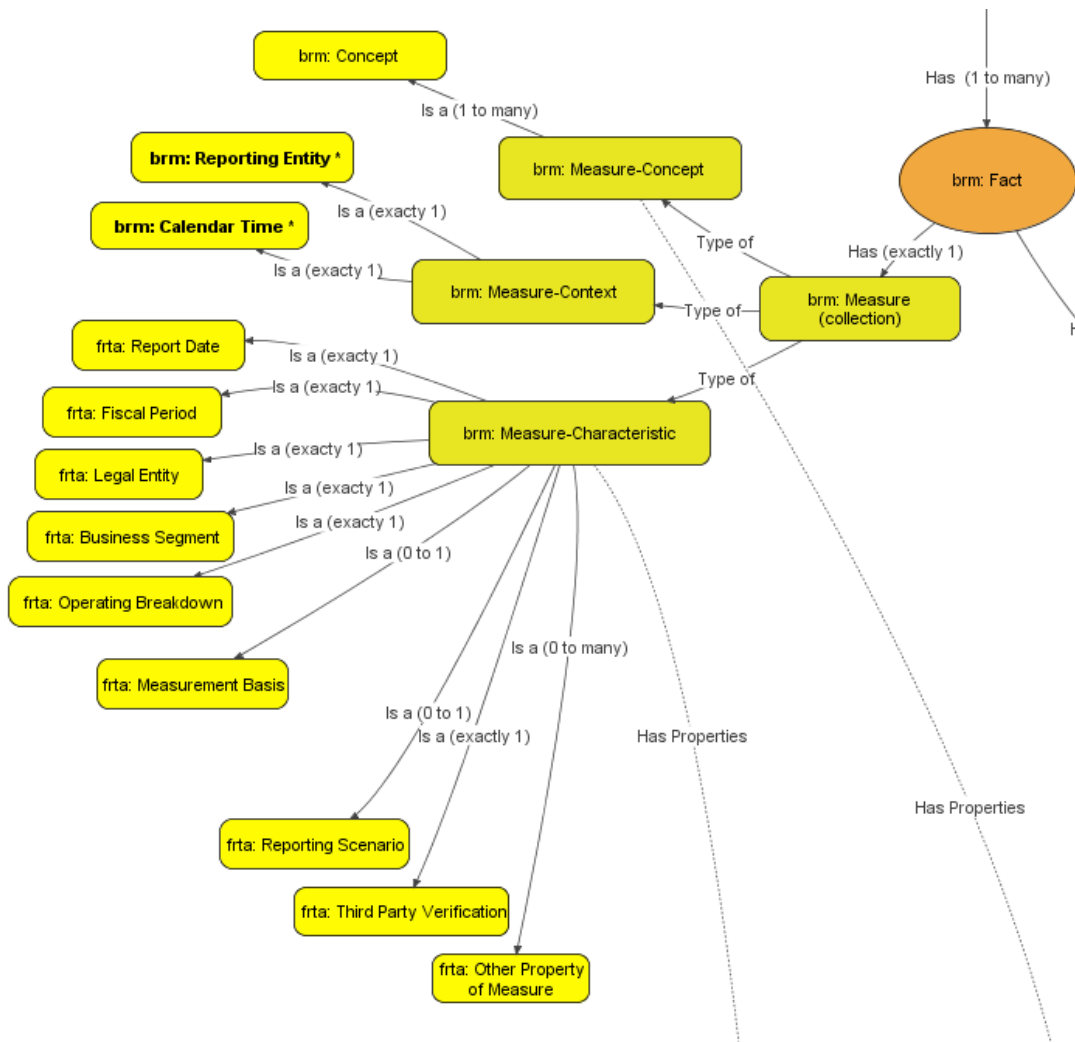
NOTE: Notice how these Measures are understandable to an accountant.

NOTE: Are these financial reporting measures optional or required?

Business Rules

- **Business Rules**: rules which a business report must follow

- **A.k.a**: XBRL Formulas, XBRL calculations

- **Computations**: numeric relationships, data integrity

- **Report-ability rules**: relations between information which is reported (i.e. if "A" is reported than "B" must also be reported)

brm: Report Set

Has (1 to many)

Has (0 to many)

brm: Business Rule

brm: Report

Has (1 to many)
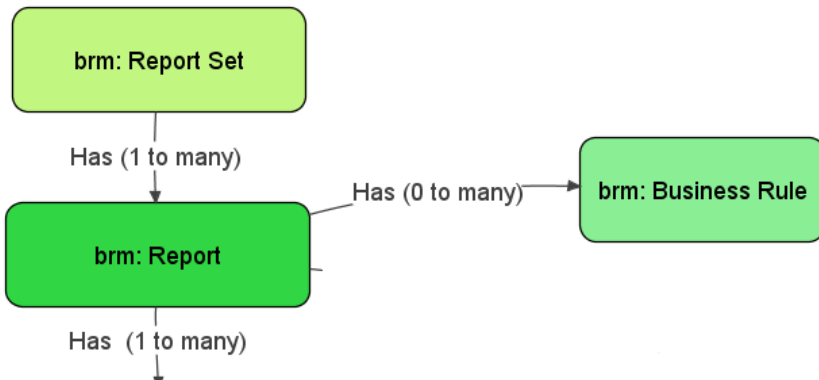
NOTE: XBRL US consistency checks tend to be report-ability rules.

NOTE: Example of business rules. Another example.

Flow

- **Flow**: notion that a business report might have an ordering or sequence (i.e. a report is not random)

- **A.k.a**: ordering of XBRL extended links; presentation (or definition) relations between hypercubes

- **Schedule**: an abstract idea which says that a one or more Fact Groups can make up a set of information
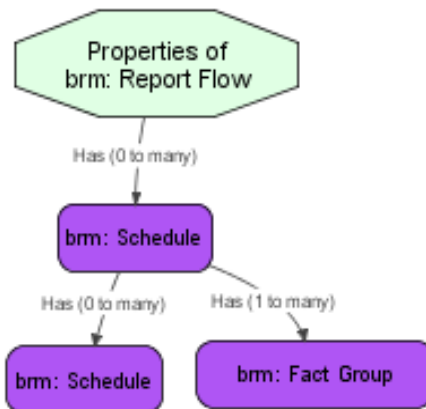
NOTE: See this example of where flow is needed. See this expression of flow information.

NOTE: XBRL has no way to put extended links in order. The US GAAP and IFRS taxonomies overcome this by using numbers in extended links. There is no way to create a hierarchy of extended links.