

**Relationships – Specific rules**  
**Request for Comments (RFC)**  
**Public Working Draft November, 2009**

## **Status**

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## **Abstract**

This document describes updates on the rules that were published in “FRTA Recommendation 2005-04-25 with errata from 2006-03-20.doc”. It highlights possible best practices in particular circumstances. It seeks public comment on these issues as part of the process of establishing best practices for XBRL projects. This RFC assumes a basic familiarity with the use and principles of XBRL.

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# **1 Introduction**

Because of the volume of rules stated in the FRTA document, a division has been made to guarantee workable RFC documents. This RFC is about rules that have specific appliance and are dealing with relationships. Most of these rules were captured in chapter 3 of the FRTA document. Each of the existing rules will be listed here as a paragraph of chapter two and suitable comments will be inserted. Each comment section will conclude with a recommendation for adjustment or removal of the existing text if appropriate.

The reader is requested to evaluate the comments and put more comments forward if they are deemed necessary to make an appropriate evaluation of the necessary changes to the current text of the FRTA rule. The final texts of the rules will be published as a minor release of the FRTA document which will also be available for the public for comments.

## 2 Rules for presentation relationships

### 2.1 FRTA rule 3.2.1

**A DTS MAY contain any number of sets of extended-type links partitioned by role.**

Any given DTS has a (possibly empty) set of presentation extended-type links that is partitioned according to the values of their `role` attributes. It is that partitioning—*not* the partitioning into files—of extended-type links within a DTS is what determines which extended-type links are processed together.

RH: This rule is more like a manual of what ELR are doing. What is it doing in the P-link section? Suggest to treat this as relationships-generic and move to 3.1 (old FRTA numbering).

MP: This is not a best practice, just a statement that you MAY use ELR's which is not stating anything.

MK: Move it to the FAQ section?

CH: There are just 2 rules why you need multiple ELR's; One because you have to split dimensions or calculations, Two because it's convenient.

It's more about partitioning which is a subject by itself (abstracts, ELR, cubes). Maybe this can be caught in new rules.

THIS IS A BEST PRACTICE SUBJECT, NOT A FRTA RULE.

### 2.2 FRTA rule 3.2.2

**A concept meant to be ordered among its siblings MUST have a parent-child presentation relationship from its parent concept.**

This rule applies to concepts whether they are items or tuples. The XML Schema content model of a tuple does not constrain the presentation arc ordering except as indicated in rule **Error! Reference source not found.**

RH: Suggest to scrap the last sentence and have 3.2.6 speak for itself.

CH: There are two issues need to be covered: tuples and its children need to be addresses by presentation not necessarily in the same order and all concepts need to be presented.

MP: Not all concepts are to be presented in modular DTS's.

CH: Is to help people to protect them from sloppyness, make it best practice.

Proposed new text: (the tuple/child is covered in 3.2.6)

**A concept that is meant to carry facts MUST have a presentation relationship**

This does not necessarily mean that through a certain entry point into the DTS, all existing concepts

MUST have presentation relationships.

## 2.3 FRTA rule 3.2.3

### **Presentation parent-child relationships having the same parent and child in extended links with the same role SHOULD provide preferred labels.**

Although no pair of arcs in the same extended-type link can have the same “from” and “to” attributes **Error! Reference source not found.**, it is still possible for separate extended-type links to have otherwise equivalent arcs. XBRL does allow undirected cycles in parent-child arc sets. But in addition to distinct values for the “order” attribute as suggested by **Error! Reference source not found.**, parent-child presentation arcs SHOULD indicate using the `preferredLabel` attribute which label an XBRL processor should use for the child concept depending on which parent concept it is being presented as a child of.

RH: Do not agree. The different ELR’s could be part of different DTS entry points in which case there is no need for `@preferredLabel`. The extra restriction of an entry-point to the DTS makes this rule valid again.

In theory it MAY be a good idea to ‘normalize’ relationships but in practice it could result in a complex web of ELR’s that needs to be combined and merged to form the presentation needed for an entry point.

CH: There is no situation where role-parent-child duplicates add anything to a DTS. So change it in MUST.

RH: How about prohibiting?

MK: Remove the rule.

CH: Duplicates should be illegal just like duplicate concepts are not allowed. In a base set duplicates that are prohibiting arcs are present, but in networks no duplicates can exist. Make comparison to a relational database and that this is the key.

#### **Proposed new text:**

### **The combination of @role and parent and child in presentation relationships MUST have different @preferredLabels in relationship networks**

A relationship network is formed by the ELR, parent – child relationships where prohibited arcs have been removed.

Duplicated sets of @role and parent and child without any form uniqueness don’t add anything to the DTS and potentially frustrate the storage of relationships in relational databases.

A duplication is not measured by the actual value in the @label from the parent or child, but from the locator or resource this @label is pointing to.

## 2.4 FRTA rule 3.2.4

**A DTS SHOULD provide parent-child presentation relationships intended for**

### **users of the taxonomy.**

The base sets consisting of parent-child arcs in a DTS, taken in union, should provide enough information to display all the concepts that the DTS authors intend to be used in instances to be validated by that DTS. This does *not* mean that the base set has to provide all of the information needed to replicate or reconstruct printed financial statements or other standard displays. It also does not mean that presentation link bases must include all concepts in the DTS. If the standard role attribute value <http://www.xbrl.org/2003/role/link> is not used, then the documentation SHOULD specify the base sets (roles) whose union provides the intended coverage.

RH: Presentation links are quite limited in functionality when using dimensions. Rendering may be a better option but is not a recommendation specification. In general I agree that a DTS should offer a presentation preference but it doesn't need to come from the DTS author. If DTS authors do not want to indicate any presentation set that must remain possible.

The way the dimensional DTS's present their dimension-domain-member hierarchy is almost always a copy of the D-links creating the dimension. That is not the intention of the D-links. These are constructing the (non)allowed members in a dimension and is therefore validation oriented, not presentation.

Extend this rule with presentation of dimensional aspects?

CH: See 3.2.2, make one text.

THIS RULE IS REMOVED

## **2.5 FRTA rule 3.2.5**

### **Abstract elements MAY be used as a heading to group other concepts for presentation.**

Related financial data items and tuples are often presented together grouped under a heading or section. If the headings do not have to be tuples because each data item can stand on its own, and if there is no data item reported specifically for that heading, then an abstract element MAY be used to organize the presentation relationships. In **Error! Reference source not found.**, Earnings per share is a heading; the components of basic and diluted earnings per share are shown separately because although they are related, they are distinct calculations. There are also line items beneath these. The top level item, Earnings per share, in the example is an abstract element with an element name whose suffix is "Presentation" merely to indicate its purpose, and the entire presentation link happens to have the standard value for `role`. See additional rules in **Error! Reference source not found.** that apply to abstract elements.

RH: This looks like a manual on using abstracts to create a presentation tree. It's a best practice not a rule.

MP: Looks like a FAQ candidate.

THIS IS A BEST PRACTICE STATEMENT AND NOT A FRTA RULE.

## 2.6 FRTA rule 3.2.6

**For every tuple there SHOULD be at least one tree of presentation parent-child relationships in which every concept that can appear as a descendant of the tuple in an instance appears as a descendant of the tuple in that presentation tree, and there SHOULD NOT exist any tree of presentation parent-child relationships in which a non-abstract concept that cannot appear as a descendant of the tuple in an instance appears as a descendant of the tuple in that presentation tree.**

The intent of this rule is to ensure that there is at least one presentation defined in the DTS rooted at the taxonomy where a tuple is defined, that matches the entire content of that tuple (to all depths of nesting of descendant tuples) that was anticipated by the taxonomy author.

Tuple concepts MAY appear in presentation hierarchies and so all elements that could appear as descendants of a particular tuple in an instance SHOULD appear as descendants of that tuple in at least one such presentation hierarchy.

Other elements that do not appear as descendants anywhere in its content model SHOULD NOT appear as descendants anywhere in any of its presentation sub-trees.

Note that for this purpose, an element reference in a tuple content model with `maxOccurs="0"` is considered to be an element that "does not appear".

The `order` attribute is not constrained by the content model.

RH: Rephrase: If there is a presentation linkbase present in the DTS every tuple MUST be at least ...

Split both rules in two separate rules.

CP: No contradiction allowed between tuple/child and presentation parent/child. Rest scrap.

### **Proposed new text(s):**

#### **A tuple-child relationship MUST NOT be contradicted by any Presentation relationship**

The tuple-child relationship MUST NOT be reversed in any presentation relationship, even with the help of abstract concepts.

This does not necessarily mean that the ordering between tuple children and presentation children needs to be the same.

#### **All children of a tuple that have an `xs:minOccurs` of one or greater and a tuple present in a presentation relationship, MUST be present as child in a presentation relationship**

This does not necessarily mean that the tuple-child relationship and presentation parent-child



relationship needs to be the exact same. There MAY be abstract concepts placed in the presentation relationships to form a more appropriate presentation tree.  
The xs:minOccurs of one or greater could be obscured by a cascade of xs:sequence and xs:choice, that doesn't change this rule.

## 2.7 FRTA rule 3.2.7

**The parent-child relationships of a movement analysis MUST refer to a single item for the beginning, adjusted and ending balance values, each with a different preferred label.**

Examples of movement analysis in financial reporting include the statement of changes in shareholders equity, the movement analysis for property, plant and equipment, and depreciation schedules in income tax reporting. As stated in rule **Error! Reference source not found.**, "**Error! Reference source not found.**" **Error! Reference source not found.** shows a movement analysis for fixed assets, showing reconciling items along the top, and a list of assets down the side.

RH: On the other hand movement analysis can also use a 'duration' item to enable beginning balance + movement = ending balance. In that case it is impossible to have just one item since the @periodType must be different.

Can this rule be broadened to: Every non abstract item with the @periodType value 'instant' which appears multiple times in a presentation relationship as a child, MUST have different @preferredLabel explaining the reason of multiple appearances.

MP: there are more ways presenting movement analysis (preferredLabel, dimensions, tuples)

CH: design patterns should be treated all or none.

LEAVE FOR DISCUSSION LATER, NOT A RULE until there is a definite approach on movements.

## 3 Rules for calculation relationships

RH: I pose the case that calculation relationships are unnecessary. If the details of a summation are supplied by the reporter why should he also provide the total? Any processor can do the math.

Up to a certain moment in time XBRL was meant as a COMMUNICATION language not PRESENTATION. But lately emphasis is put more and more to presentation. If presentation purposes are of eminent importance I would rather opt for defining presentation items (like abstracts and (sub)totals) in an extension, which may or may not be supplied by the same DTS author.

With the introduction of the presentation needs of (sub)totals comes a validation need. The calculation relationships itself do NOT pose the presentation. Let's not forget that when it comes to defining a dimensional space.

CH: Not all business relationships need to be communicated. It's not about calculations but computations (or business rules that add up). DTS creators should create summation rules and determine later if they need to be in the DTS (if all items are in there: yes) and how they are going to be in there: calculation or formula.

### 3.1 FRTA rule 3.3.1

**All concepts in a DTS which have an additive relationship in all equal contexts SHOULD have calculation relationships in that DTS.**

Taxonomy authors SHOULD supply a calculation relationship for any two concepts in the same DTS, whenever it is the case that in *any* context, one item is a mathematical component of the other.

For example, suppose that a DTS encompasses the concepts "Gross receivables", "Net receivables" and the adjustment "Allowance for returns and doubtful accounts", and further suppose that the documented definitions of these concepts indicate that the relationship is a total ("Gross") with two items "Net" and "Adjustment". Mathematically this is identical to the " $A = B - C$ " example illustrated above and so the calculation links are structured identically.

RH: Stands, although this situation is becoming rather rare with dimensions.

CH: It is important to document *any* relationship between metadata, it's up to the DTS author whether that be a calculation or something else.

RH: Formulae can replace this rule AND serve dimensions.

MP: Not all DTS authors can predict business rules since they may not be receiving instances

CH: If business rules exist they MUST be present, if the DTS author expects something to add up, it MUST be stated as some kind of a summation. To aid as much documentation as possible for the reporter.

This rule needs to be broadened for dimensions with formulae links, but in a different approach not from the technical XBRL perspective.

#### Proposed new text(s):

**All summation relationships across items SHOULD be expressed**

If a summation relationship between items or primaries exists in a DTS and the 'total' of this summation is also present as an item in the DTS, the summation relationship MUST be expressed in the DTS. It is the choice of the DTS author how this relationship is expressed; either by calculation arcs or formulae. If the concept that should carry the 'total' is not made available in the DTS, the author must realize that all clarifying relationships are helping the reporter stating a higher quality instance. Validation rules like a summation help to improve the quality of the instance.

### 3.2 FRTA rule 3.3.2

**Calculation relationships that represent alternative summations for the same item MUST be in extended-type links with distinct roles.**

Double counting would result if two alternative ways of calculating an amount were to appear both in extended-type links with the same role. For example, total income tax expense might be calculated either by summing foreign and domestic taxes, summing current and deferred, or both. These calculations must appear in extended-type links with distinct roles.

RH: Stands

CH: But it puts problems on presenting those ELR's, since facts that can be summarized in different ways it does not automatically mean that you would want all those different calculations ELR's being presented

RH: With formula and rendering this dependency between validation and presentation is taken apart but that cannot be done with Calculation and Presentation links.

New explanatory text should include these presentation consequences.

**Proposed new text(s):**

**Calculation relationships that represent alternative summations for the same item MUST be in extended-type links with distinct roles.**

Double counting would result if two alternative ways of calculating an amount were to appear both in extended-type links with the same role. For example, total income tax expense might be calculated either by summing foreign and domestic taxes, summing current and deferred, or both. These calculations must appear in extended-type links with distinct roles.

The existence of multiple ELR's with calculation relationships in them for a number of the same items does not impose a ruling that these ELR's should have presentation relationships equals. It would be unlikely that an item that plays a part in multiple calculation relationships would also need multiple presentation relationships.

### 3.3 FRTA rule 3.3.3

**Taxonomies SHOULD define an extensive set of subtotal concepts to limit the extent to which XBRL instances requiring such sub-totals need to create report-specific extensions.**

Just as in **Error! Reference source not found.**, all of the items and relevant calculation arcs SHOULD be defined for cases where such alternatives are permitted.

Multiple calculation hierarchies, summing a single set of concepts in multiple ways, occur in many guises in financial reporting. For example, in a classified balance sheet, assets and liabilities are totalled separately into current and non-current categories; while an unclassified balance sheet does not make the current versus non-current distinction. Classified balance sheets may also be presented as "assets = liabilities + equity," as "net assets = assets – liabilities = equity," as "net assets = assets – liabilities –

minority interests = equity,” and so on. These relationships MUST be defined in calculation links having different roles.

RH: Do not agree. The instance is meant to provide the ‘atomic values’. All kind of subtotal items clutter the instance and are only for presentational purposes.

CP + CH: Drop this rule.

THIS RULE IS REMOVED.

### 3.4 FRTA rule 3.3.4

#### **Calculation relationships MUST be defined between items being totalled in a tuple.**

Financial reporting tables often show totals for one or more of the columns. Calculation relationships MUST be defined between the items being totalled within the table and the item that represents the total itself where such calculation relationships hold within a single context. **Error! Reference source not found.** is similar to **Error! Reference source not found.** except for the item “Total Salary, Bonus, and Director Fees”. This is a total *within* a tuple. The total *across* the tuples is the “Total” at the bottom of the table. Each such total is a child of the enclosing tuple, here called `DirCompensationTotal`.

It is up to XBRL instance creators to ensure that their XBRL instances present the various instances of the concepts in a way that enables the calculation relationships to bind. Generally, a total item SHOULD be a sibling of the tuples that contain the items whose values aggregate to the value of the total item.

RH: Like before, if the details are communicated, the instance receiver can do the math. No need for a total.

CH: If this anything like 3.3.1 than calc relationships need to be present when the DTS author expects this calculations to be correct. Tuples are not really an issue on these relationships. Refer back to 3.1.3 and mention that N repeating elements do not work for calculations.

#### **Proposed new text(s):**

#### **Calculation relationships between items in a tuple**

There are two ways in which items inside in a tuple can be totaled: 1) With the total as an item within the same tuple and 2) with the total outside the tuple.

In case 1) the rules of FRTA 3.3.1 apply.

In case 2) the technical XBRL restriction applies that this cannot be expressed in a calculation relationship. Since repeating items (within the tuple) cannot be expressed in a link. It would result in the item summing to itself, which is a disallowed cycle.

The summation expressed in case 2) is only possible by defining a formula.

### 3.5 FRTA rule 3.3.5

**The declarations of the source and target concepts of a summation-item relationship MUST have identical values of the periodType attribute.**

For example, there MUST NOT be a calculation relationship between the items in **Error! Reference source not found.**, because the period types are different and therefore the items are in different contexts.

RH: This is an attempt to rephrase the need for having the items in a calculation to be c-equal, which is in the 2.1 specification (5.2.5.2). Scrap.

CH, CP: Remove

THIS RULE IS REMOVED.

### 3.6 FRTA rule 3.3.6

**The source and target concepts of a summation-item relationship MUST be distinct.**

Summation-item arcs MUST NOT be used to describe relationships *if* the starting and ending balances are represented by the same numeric item but distinguished by different periods. Although XBRL section 5.2.5.2 allows all types of cycles in sets of summation-item arcs, this rule forbids the particular case of a cycle of a single item.

RH: This refers to c-equal too, but I bet that a lot of people don't realize that the period dates are also influencing the calculation. Still, the situation described is NOT c-equal, thus covered by 5.2.5.2, thus scrap.

CH: Adjust, concepts adding to itself is not allowed, contexts come only into play with an instance, so testing on c-equal does nothing in DTS validating.

YN: Cycles are only valid across ELR's not within one ELR. Refer to Excel cycles.

**Proposed new text(s):**

**The source and target concepts of a summation-item relationship MUST be distinct.**

Summation-item arcs MUST NOT be used to describe relationships *if* the starting and ending balances are represented by the same numeric item but distinguished by different periods. Although XBRL section 5.2.5.2 allows all types of cycles in sets of summation-item arcs, this rule forbids the particular case of a cycle of a single item, where the item is summed to itself.

## 4 Rules for definition relationships

## 4.1 FRTA rule 3.4.1

### **Equivalent items in different taxonomy schemas within a DTS SHOULD be indicated by essence-alias relationships.**

Section 5.2.6.2 **Error! Reference source not found.** imposes the constraint that items connected by an `essence-alias` arc must have the same item type and must have identical values within the same context in an instance. Also, rule **Error! Reference source not found.** ("**Error! Reference source not found.**") means that each taxonomy schema MUST use unique elements to express unique concepts.

Therefore, the intended use of the `essence-alias` arc is to map equivalence between taxonomies. In fact, because of rule **Error! Reference source not found.**, this rule is relevant only for arcs where the source and target are in different taxonomy schemas. There are no requirements governing which concept is chosen as the essence (source) and which the alias (target) in the relationship.

Adding an `essence-alias` arc from one DTS to a concept not already in that DTS does imply that the taxonomy of that other concept will, by the rules of DTS discovery, be included in the DTS. The present rule does *not* recommend the inclusion of additional taxonomy schemas; it only says that *if* a DTS contains equivalent concepts, *then* there should be an `essence-alias` or `similar-tuples` arc, as appropriate.

RH: Maybe the data modeling terminology homonyms and synonyms should be introduced in the explanation. Propose to scrap the last words of the explanation: 'similar-tuples' has its own rules.

CP: This `essence-alias` arc doesn't work for dimensional concepts. You would need more parameters on the parent and child (like `dim` and `dom`). There is a need for such an arc between the concept 'land' and the PPE (property, plant, equipment) primary with the domain-member 'land'.

RH: Propose to declare this only valid on non-dimensional concepts.

YN: No, it can be handy to support transition between two concepts from non-XDT to XDT.

CH: can't we scrap this rule and leave it to the market?

CP: No problem to leave it in, but there needs to be effort to create arcs that can help with XDT equivalence rules.

#### **Proposed new text(s):**

### **Equivalent items in different taxonomy schemas within a DTS SHOULD be indicated by essence-alias relationships.**

Section 5.2.6.2 **Error! Reference source not found.** imposes the constraint that items connected by an `essence-alias` arc must have the same item type and must have identical values within the same context in an instance. Also, rule **Error! Reference source not found.** ("**Error! Reference source not found.**") means that each taxonomy schema MUST use unique elements to express unique items.

Therefore, the intended use of the `essence-alias` arc is to map equivalence between taxonomies. In fact, because of rule **Error! Reference source not found.**, this rule is relevant only for arcs where the source and target are in different taxonomy schemas. There are no requirements governing which concept is chosen as the essence (source) and

which the alias (target) in the relationship.

Adding an essence-alias arc from one DTS to a concept not already in that DTS does imply that the taxonomy of that other concept will, by the rules of DTS discovery, be included in the DTS. The present rule does *not* recommend the inclusion of additional taxonomy schemas; it only says that *if* a DTS contains equivalent concepts, *then* there should be an `essence-alias` arc, as appropriate.

Since the relationship cannot express any dimensional aspects, the essence-alias arc can only be used on non-dimensional items.

## 4.2 FRTA rule 3.4.2

### **Items that fall into the same category or family SHOULD be related using the general-special relationship.**

General-special relationships provide the user of the taxonomy assistance in identifying what a particular concept means by helping classify the concept, and can help end users to identify appropriate elements to select when mapping their own data models or terminology to a taxonomy. For example, “fixed assets” are a specialisation of “assets”; “profit” is a specialisation of “business measure”; “accumulated depreciation” is a specialisation of “contra-asset”. The `general-special` relationship suggests its meaning to a human observer, but conforming XBRL processors do not draw any particular inferences from the presence or absence of `general-special` relationships.

RH: General-special relationships could be looked upon from a business perspective (above) but I haven't seen anyone using it. From a technical perspective is also possible: item A and B have a general-special relationship but B has a more limited @type (A= decimal, B=integer). Does the latter need to be another arcrole?

DvK: The relationship was drawn up to express semantics between concepts, not technical related.

CH: From a business perspective more detailed relationships like line-item / class of line-item are also of interest. But the current relationship cannot be used in dimensional DTS's and is of limited use.

MK: EdiNet is using this relationship to cover accounting semantics.

#### **Proposed new text(s):**

### **Items that fall into the same semantic category or family MAY be related using definition arcs like general-special.**

In order to supply more semantic meaning to items, the definition linkbase can support all kinds of data modelling relationships. The XBRL specification has defined the `general-special` arc to support relationships like “fixed assets” are a specialisation of “assets”; “profit” is a specialisation of “business measure”; “accumulated depreciation” is a specialisation of “contra-asset”.

DTS authors are encouraged to express the semantic meaning between items using relationships that are stored in definition linkbases. However, the meaning of the relationships may require more detailed arcroles. These can be created by the DTS author

and provided to the Link Role Registry (LRR) for all other users to profit.

Since the current relationships cannot express any dimensional aspects, the general-special arc can only be used on non-dimensional items.

### 4.3 FRTA rule 3.4.3

**A tuple having the same reporting purpose as a tuple in a different taxonomy within the same DTS SHOULD have a similar-tuples relationship to that other tuple.**

Extension taxonomies are meant to use `similar-tuple` definition relationships to relate a new tuple to an existing tuple in the taxonomy that is being extended, where the new tuple had the same reporting purpose.

In a strict sense, “similar” tuples are tuples with similar meanings but different content models. The `similar-tuples` arc role is used to indicate that two different tuple concepts are both designed to serve the same purpose, for example, to relate two mailing address tuples with different address structures. This arc role is for the documentation of relationships between tuples and a conforming XBRL processor draws no inferences from it. The most common circumstance contemplated is where a new tuple has been added to a DTS via an extension taxonomy. This provides a mechanism for documenting relationships between a new tuple and its predecessor, without using the XML Schema `redefine` construct that is prohibited by XBRL section 5.1.5.

RH: Again; from a business perspective the relationship is explained but this time it floats into the technical construct claiming that it is OK to let the tuples have different content models. This relationship is also hardly ever used.

#### **Proposed new text(s):**

**Equivalent tuples in different taxonomy schemas within a DTS SHOULD be indicated by similar-tuples relationships.**

Extension taxonomies are meant to use `similar-tuple` relationships to relate a new tuple to an existing tuple in the taxonomy that is being extended, where the new tuple has the same reporting purpose.

In a strict sense, “similar” tuples are tuples with similar meanings but different content models. The `similar-tuple` arc role is used to indicate that two different tuple concepts are both designed to serve the same purpose, for example, to relate two mailing address tuples with different address structures. This arc role is for the documentation of relationships between tuples and a conforming XBRL processor draws no inferences from it. The most common circumstance contemplated is where a new tuple has been added to a DTS via an extension taxonomy. This provides a mechanism for documenting relationships between a new tuple and its predecessor, without using the XML Schema `redefine` construct that is prohibited by XBRL section 5.1.5.



Since the relationship cannot express any dimensional aspects, the `similar-tuple` arc can only be used on non-dimensional tuples.

## 4.4 FRTA rule 3.4.4

**The requires-element relationship MUST NOT be used when a tuple construct can adequately represent the same constraint.**

As stated in 5.2.6.2 **Error! Reference source not found.**, "If an instance of the concept at the source of the arc occurs in an XBRL instance then an instance of the arc's target concept MUST also occur in the XBRL instance." A conforming XBRL processor will enforce this constraint on instances. A similar effect can be achieved with the following tuple content model:

```
<choice>
  <sequence>
    <element ref="TheElement">
      <element ref="TheElementThatIsRequired">
    </sequence>
    <element ref="TheElementThatIsRequired" minOccurs="0"/>
  </choice>
```

However, the intent of the reporting standard being expressed by the taxonomy may be more or less restrictive than that. 5.2.6.2 **Error! Reference source not found.** also points out that "this requirement does not impose requirements on relative locations of the concept instances in tuples." Therefore, if the intent of the taxonomy to require one element if another appears, irrespective of content, irrespective of where the element appears in the instance, and irrespective of usage by other taxonomies, that is the *only* appropriate use of the `requires-element` arc.

RH: This constraint should be enforced by formulae, not 'requires-element'. The relationship doesn't take into account all the other aspects on a fact. Propose to drop this arcrole altogether.

MP: Agree

DvK: Albeit the arc can support a kind of validation that tuples can do too (which would be inappropriate), it has less practical use and the formula specification has taken the validation syntax way further.

GLG: For DTS authors that are not willing to use formulae yet, it is a 'simple' validation rule.

VM: If it doesn't take context aspects into account it could validate items across periods without making that explicit, the validation is pretty useless.

### **Proposed new text:**

**The requires-element relationship SHOULD NOT be used**

Since this relationship cannot express any dimensional or other context aspects, the `requires-element` arc has very limited use.

A similar effect COULD be achieved by using a tuple and the use of `xs:minOccurs="1"` for multiple children. However, the tuple is NOT intended for validation of facts presence in an instance. Therefore, if the intent of the DTS author is to require one element if another appears, irrespective of content, context, or where the element appears in the instance, and irrespective of usage by other taxonomies, that is the *only* appropriate use of the `requires-element` arc.

### **Concluding remarks from the INT-TA working group**

The new FRTA should be written from a semantic perspective, the current FRTA document can still be upgraded but is from a technical perspective.

The dimensional D-links are not to included in the current FRTA update. Those will needed to be addressed from a semantic point of view. Rules like 'being careful with typed dimensions' and 'having a difference between domain members and primaries' are in need of being written down.

FRTA rulings are in need of taking business perspectives and should not include all kinds of 'IF you are an extender, THEN ...'. To dedicate the FRTA rules to certain business reports, it is needed to separate the different business objectives of reports. Different reports need to use different technical solutions; 'financial reporting' like with UGT, IFRS and EdiNet doesn't use tuples, but GL reports cannot do without. A special document dividing these report markets into profiles will be made available to the market and all semantically oriented FRTA rules will be assigned to each of those profiles.

## Appendix A - References

[SPEC]	XBRL Specification 2.1, Recommendation, 31 Dec 2003. <a href="http://www.xbrl.org/SpecRecommendations/">http://www.xbrl.org/SpecRecommendations/</a>
[FRTA]	Financial Reporting Taxonomies Architecture 1.0, Recommendation, 25 April 2005. <a href="http://www.xbrl.org/TaxonomyGuidance/">http://www.xbrl.org/TaxonomyGuidance/</a>

## Appendix B – Document history

Date	Editor	Summary
November 2009	Hombres	Draft version 0.1 and 0.2 for review by INT-TA.

## Appendix C – Intellectual property status

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