

**Relationships – Generic rules**  
**Request for Comments (RFC)**  
**Public Working Draft October, 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

Editor:

Roland Hommes, [roland@rhocon.nl](mailto:roland@rhocon.nl)

Contributors:

CH: Charlie Hoffman  
EC: Eric Cohen  
YN: Yossi Newman  
PR: Pascal Rodriguez  
MP: Maciej Piechocki  
GLG: Gianluca Garbelotto  
MK: Makoto Koizumi  
PC: Peter Calvert  
MS: Mark Schnitzer  
VM: Victor Morilla

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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 generic 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 all relationships

### 2.1 FRTA rule 3.1.1

**A linkbase MUST NOT include any link elements (simple, resource, extended, or arc) not in an XBRL module or in the XBRL 2.1 Specification.**

Although XBRL allows linkbases to be extended with additional XLink constructs, the set of schemas and linkbases comprising a FRTA compliant DTS is limited to those defined in the current XBRL Specification or Module Recommendations.

RH: stands

EC: Generic Link; is that compromising this rule? (RH: No, generic Link is an XBRL Module)

CH: XDT roles were new roles that did not make it to the LRR. Maybe it needs rewording? There are other projects that have created roles that are still not in the LRR because of the process. Goto-san and Walter may have opinions about how roles are being entered in the LRR. (RH: This rule is about elements, not roleTypes)

### 2.2 FRTA rule 3.1.2

**An arc MUST have only its standard or LRR approved arc role.**

A FRTA-compliant DTS MUST NOT use any arc roles except those documented in the XBRL Specification or approved in the LRR. This does not prevent the publication of an additional set of schemas, role definitions and linkbases that constitute a non-FRTA compliant *superset* of a FRTA-compliant DTS.

RH: stands

YN: LRR requests could work with a status indicator on each line. Otherwise large projects create their own sets which suppliers cannot check and that would create interoperability problems. (RH: LRR specification has the '<lrr:status>' element that indicates PWD, CR, REC etc.)

CH: This is the same problem with custom attributes like the 'deprecated' status on concepts, there is no mechanism that states how XSD extensions with EXTERNAL functionality should be implemented.

### 2.3 FRTA rule 3.1.3

**The label and reference elements MUST have only their standard or LRR approved resource roles.**

The set of label and reference roles defined in Sections 5.2.2.2 (Table 8) and 5.2.3.2.1 (Table 9) of the

XBRL 2.1 Specification, and any label and reference roles defined in the LRR, are all that are allowed in `labelLink` and `referenceLink` elements.

RH: stands

CH: There is a difference between standard and XII recognized roles. The relationship roles text needs to prohibit the error messages that were generated when XDT came up first.

## 2.4 FRTA rule 3.1.4

**An extended-type link role MUST have no processing semantics other than specified by XBRL.**

The only processing semantics that XBRL gives the `xlink:role` attribute on extended-type links is that the values partition the sets of arcs in a DTS into distinct sets called link base sets. This is the *only* semantics allowed for the `xlink:role`.

RH: stands

## 2.5 FRTA rule 3.1.5

**A schema MUST NOT define a role type that duplicates a definition in the DTS whose starting point is the schema defining that role type.**

An equivalent formulation of this rule is that a schema-rooted DTS MUST NOT contain s-equal role types. Although a FRTA compliant taxonomy is constrained to use roles as shown in **Error! Reference source not found.**, the definitions of those roles MAY occur in various locations; this rule ensures that only one definition is used within a given DTS, because a taxonomy author can control this but not control the DTS of any instances. This rule also implies that the authoritative location of the role definition SHOULD be used.

RH: stands

## 2.6 FRTA rule 3.1.6

**Roles and arc roles from XBRL, XBRL modules, and the LRR SHOULD be used in preference to defining new roles.**

This is a logical consequence of the fact that each of these sources has the status of an XBRL International recommendation.

RH: stands

## 2.7 FRTA rule 3.1.7

### **All arcs within an extended-type link MUST have the same arc role.**

The XML Linking Language **Error! Reference source not found.** forbids duplicate arcs within a given extended-type link, even when the arcs in question have different arc roles. Conforming XBRL processors detect violations of this syntax constraint. Accidental violations can be minimised by forcing each extended-type link to have only a single arc role on all the arcs that the extended-type link contains. In practice, this is most relevant to definition extended-type links, which have four standard arc roles defined:

```
http://www.xbrl.org/2003/arcrole/general-special  
  
http://www.xbrl.org/2003/arcrole/essence-alias  
  
http://www.xbrl.org/2003/arcrole/similar-tuples  
  
http://www.xbrl.org/2003/arcrole/requires-element
```

This is true even though there are additional restrictions on which definition arcs may apply to which element pairs. The other extended-type links in XBRL each have only one standard arc role defined in each.

RH: Revising this rule is necessary due to the use of XDT where arcroles like domain-member and dimension-domain are frequently stored inside one extended link. The rule may still stand for the original 2.1 specified definition links but I don't see the added value. Propose to scrap the rule.

CH: Ask Walter, Mark G. and Cliff maybe IHR if there is a reason NOT to scrap this rule.

THIS RULE IS REMOVED

## 2.8 FRTA rule 3.1.8

### **Each extended-type link MUST have a nonempty role attribute.**

XBRL processors treat extended-type links separately when they have different values for the `role` attribute.

This is a consequence of specification section 3.5.3.3 **Error! Reference source not found.**, which indicates that the `role` attribute MUST NOT be empty *and* that the standard value for the `role` attribute is `http://www.xbrl.org/2003/role/link`.

RH: scrap, is a 2.1 specification enforced rule.

YN: Empty attribute allowed? (RH: No, mandatory attributes MUST be equipped with a value = XSD specification).

THIS RULE IS REMOVED

## 2.9 FRTA rule 3.1.9

**Extended-type links that are not necessarily processed together by consuming applications MUST have distinct role values.**

Typical reasons that extended-type links are not be processed together are that the links may be incompatible (such as two alternative presentation formats that cannot be mixed), or that the links may be redundant.

This is a consequence of specification sections 3.5.3.3 and 5.2 **Error! Reference source not found.**, which define, respectively, the syntax and semantics of the extended-type link `role` attribute.

RH: I am in doubt, I think there is NO rule in the specification that states that the `@role` on extended links needs to be unique. With the `@href` multiple linkbase documents can be addressed and I don't see why they couldn't be using the same `@role`. It involves that the software merges these ELR's, but so what?

## 2.10 FRTA rule 3.1.10

**Any role type definition for an extended-type link in a persisting DTS MUST have a human-readable explanation in its definition element.**

In addition to being good practice to document newly defined roles, the purpose of this rule is to ensure the availability of a human-readable "label" to appear in taxonomy tools. Users see "Balance Sheet, Order of Liquidity Format" rather than "<http://www.xbrl.org/2003/role/BalanceSheetLiquidity>".

This means that in effect the `definition` element is required in the `roleType` element and its non-empty content SHOULD be an explanatory text string of no more that 50 characters. Additional description of the processing semantics SHOULD be provided in documentation **Error! Reference source not found.**

RH: Not preferable anymore. Definitions in XBRL are supported through extended links. This being the exception. The role type definition MUST be supplied, but rather in a generic label linkbase. The `<link:definition>` node has become optional (2.1 specification defines it as optional). Using a linkbase also provides multiple languages and even references if necessary. Maybe it is wise to have a standard arcrole entered in the LRR for this purpose.

YN: Preferred in generic label link, optional in `<link:definition>`

Proposed new text:

## **Any role type definition for an extended-type link in a persisting DTS MUST have a human-readable explanation**

In addition to being good practice to document newly defined roles, the purpose of this rule is to ensure the availability of a human-readable “label” to appear in taxonomy tools. Users see “Balance Sheet, Order of Liquidity Format” rather than

“<http://www.xbrl.org/2003/role/BalanceSheetLiquidity>”.

This means that a generic label linkbase needs to be created to be attached to this @role attribute which contains the human readable text. Suggested is to use the arcrole URI <http://www.xbrl.org/2010/arcrole/role-label>. Besides this solution the XBRL specification supports the `definition` element in the `roleType` element. Its non-empty content CAN be an explanatory text string of no more that 50 characters, but the generic label link is preferred. Additional descriptions of the processing semantics MUST be provided in generic label or reference links.

## **2.11 FRTA rule 3.1.11**

**The role URI in a roleType element MUST be an LRR approved role or begin with the same scheme and authority parts as the target namespace of the taxonomy schema where it appears.**

This limits the potential for accidental merging of independently created networks of relationships. Only the scheme and authority **Error! Reference source not found.** must be the same, not the entire path. When the URI is a URN **Error! Reference source not found.**, this rule is interpreted to mean that the NID must be the same.

RH: Not ‘appears’ but ‘is created’. This means that extensions that create their own ELR’s can never have the @roleURI ‘look’ like an original one.

Proposed new text:

**The role URI in a roleType element MUST be an LRR approved role or have a naming convention guaranteeing uniqueness.**

An example of such naming convention CAN be:

All roleType role URI’s are a concatenation of the same scheme and authority parts as the target namespace of the taxonomy schema where it appears, a custom part and ends with the word ‘role’.

This limits the potential for accidental merging of independently created networks of relationships.



Only the scheme and authority **Error! Reference source not found.** must be the same, not the entire path. When the URI is a URN **Error! Reference source not found.**, this rule is interpreted to mean that the NID must be the same.

## 2.12 FRTA rule 3.1.12

**The role URI in a roleType element SHOULD end with “role” and a human-readable name.**

In addition to as the constraints on the first part of a role URI (rule **Error! Reference source not found.**), the last part of the role must have a specified form as well. This rule is not mandatory because not all URI schemes might support this convention. When the URI is a URN **Error! Reference source not found.** this is interpreted to mean that the NIS SHOULD contain `role`.

RH: Do not agree. Why is it important to put so many string format demands on the roleURI? Uniqueness is an argument but is already enforced by 3.1.11 and that should be a concern of the DTS author, not a FRTA prescription. Human readability is solved with a) link:definition and b) generic link. It looks the same as an rule stating that all elements should have the string 'concept' in their name.

YN: Agree

CH: naming convention for URI's is all that is meant, and to prevent doubles.

THIS RULE IS REMOVED, ITS CONTENT MERGED IN RULE 3.1.11

## 2.13 FRTA rule 3.1.13

**All arcs whose source and target both refer to concepts MUST specify an *order* attribute.**

This rule universally applies to all arcs in all extended-type links in the calculation, definition and presentation linkbases, and applies to arcs with any arc role, whether standard or custom. This rule ensures that linkbases in taxonomies published conforming to FRTA have a common way of being presented in different tools. It is also meant to apply to any future XBRL modules that introduce new linkbases connecting concepts with each other; it does *not* apply to the label, reference (or footnote) linkbases. Section 3.5.3.9.6 of XBRL 2.1 Specification indicates that the `order` attribute is optional, but the `order` attribute is required in FRTA-compliant taxonomies.

Note that each sub-network of relationships and the way it is displayed to a user may bear no resemblance to any other sub-network. For example, a display in which the definition `essence-alias` arcs show each essence item as the parent of a list of alias items need bear no relationship to

presentation parent-child or calculation summation-item arcs.

RH: Nonsense. Definition (2.1, not XDT) links, Generic links. Rule MAY be of interest for presentation and XDT links but that's it. If the uniform presentation of arcs across different types is really important, the @order should be made mandatory by the SWG.

CH: Order is only interesting in some arcs, If order matters you MUST use the @order, it is about presentation (could be calculation presentations, or domain members in a domain), and it plays a role in the prohibiting of arcs.

Proposed new text:

**If the presentation order or prohibition of arcs is important, all arcs MUST specify an *order* attribute.**

This rule applies to all arcs in all extended-type links in all linkbases independent from the arcrole. This rule ensures that linkbases in taxonomies published conforming to FRTA have a common way of being presented in different tools. Another reason using an order attribute is that the prohibition of arcs by extenders works on the combined key of linkrole, parent, child, arcrole and @order. If the @order would be missing the prohibition would take place on the default order value one, and on prohibition arc could potentially touch multiple arcs.

Examples where the @order would be useless are the label, reference (or footnote) linkbases. Note that each sub-network of relationships and the way it is displayed to a user may bear no resemblance to any other sub-network. For example, a display in which the definition domain-domain-member arcs show each domain item as the parent of a list of domain member items need bear no relationship to presentation parent-child or calculation summation-item arcs.

## 2.14 FRTA rule 3.1.14

**Two relationships defined by arcs in the same base set with the “use” attribute having the value “optional”, having concepts as targets and sharing the same “from” concept SHOULD have distinct values for the “order” attribute.**

It is desirable for a DTS to have a deterministic ordering among siblings when displayed. This is always possible to ensure even for a DTS that imports two otherwise incompatible DTS's, by prohibiting any arcs that introduce ambiguous ordering. This rule does not apply to relationships with the use attribute value of prohibited; it also does not apply to relationships between concepts and resource-type elements.

Note that this rule applies to relationships, not to arcs. Therefore, an arc with a “to” attribute value that is the XLink label of more than one concept would necessarily violate this rule since its ‘order’ attribute would then apply to siblings.

RH: I think that prohibiting arcs just to re issue a new order attribute is a too strong an argument. Does rendering use the @order?

CH: This rule should be in the spec. 2.1. Since its not, it's in FRTA.

## 2.15 FRTA rule 3.1.15

**All arc-type elements MAY have use and priority attribute values.**

This is a consequence of specification section 3.5.3.9.7 **Error! Reference source not found.**, which defines how XBRL processors interpret the optional `use` and `priority` attributes.

RH: is repeating the 2.1 specification, redundant, scrap.

YN: scrap

THIS RULE IS REMOVED

## 2.16 FRTA rule 3.1.16

**All extended-type, locator-type, arc-type, and resource-type elements MAY have a title attribute.**

XBRL processing ignores the `title` attribute. The `title` attribute is intended for use by XLink processors.

This is a consequence of specification section 3.3.5.6 **Error! Reference source not found.**, which states that "titles have no XBRL specified semantics." Section 3.5.3.9.6 applies to extended-type links, 3.3.5.6 to arcs.

RH: is repeating the 2.1 specification, redundant, scrap.

YN: scrap

CH: better is to create a rule where this @ should be used for. No semantic meaning in the @title.

Proposed new text (the RULE is REMOVED):

**The XLink attributes @title, @show and @actuate MUST NOT be used for semantic meaning aimed at reporters or extenders.**

XBRL processing ignores these attributes. These attributes are intended for use by XLink processors.

This is a consequence of specification section 3.3.5.6 **Error! Reference source not found.**, which states that "titles have no XBRL specified semantics." Section 3.5.3.9.6 applies to extended-type links, 3.3.5.6 to arcs.

## 2.17 FRTA rule 3.1.17

**Taxonomy creators MAY provide `show` and `actuate` attribute values on linkbase arcs.**

XBRL processing ignores the `show` and `actuate` attributes. These attributes are intended for use by XLink processors.

RH: is repeating the 2.1 specification, redundant, scrap.

CH: same as @title, no semantic meaning.

THIS RULE IS REMOVED and replaced with the text in rule 3.1.16

## 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
October 2009	Hombres	Draft version 0.1 and 0.2 for review by INT-TA.

## Appendix C – Intellectual property status

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