RIXML Level One

Definition Document

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What is RIXML?

RIXML.org is a consortium of buy-side firms, sell-side firms, and vendors that have joined together to define an open standard for categorizing, tagging, and distributing global investment research. The RIXML standard provides extensive capabilities to tag any piece of research content, in any form or media, with enough detail for end users to be able to quickly search, sort, and filter aggregated research.

RIXML utilizes XML (eXtensible Markup Language), the global standard for data sharing between internet applications. RIXML.org is creating a standard based on industry needs. RIXML is not a distribution service or application vendor. Instead, we are creating an open specification that can be freely used by application vendors, research providers, and their clients.

Table 1. Benefits of RIXML.

Benefits for Research Consumers	Benefits for Research Publishers and Distributors
Expedite searching and accessing content	Maximize value of research by making it more manageable
Reduce information overload and increase efficiency of personal usage and delivery	Increase efficiency of distribution
Improve access to research by standardizing sorting and filtering criteria	Enable transmission of new content types such as thematic research or earnings models research by standardizing sorting and filtering criteria

What is RIXML Level One?

The full schema for RIXML can always be found on the RIXML web site[1]. That is not changing. RIXML "Level One" is not a new release of the RIXML schema. Level One is simply a common starting point for introducing RIXML into a research platform. It is a subset of the full schema representing the most important and most widely implemented tags.

Why was RIXML Level One created?

We have received feedback from various people and companies attempting to apply RIXML during the past few years. While there have been many positive comments, the criticisms of RIXML have centered on getting started. It's not clear from existing documentation where an adopter should put the initial focus. The full RIXML schema is small by comparison to other industry standards, but still large enough to be daunting to adopters.

Early adopters have struggled with questions like: Which tags are the most important? Which tags are most research publishers actually using? What do the values mean? How should my software react to the presence or absence of a particular tag? The Level One project attempts to address these questions and to make initial adoption of RIXML easier and more consistent.

[1] http://www.rixml.org/newsite/specification.html

What information is included in RIXML Level One?

At a high level, RIXML Level One contains the kinds of document tags you'd expect for investment research products.

- Time and date of publication
- Publication status, i.e. released, revised, deleted
- Product type, i.e. report, comment, model
- Language
- Name of the publishing firm
- Name of the author(s)
- Title, subtitle, abstract, synopsis
- Subject
- Reference to the PDF file
- Issuers discussed, with cash flow, revenue
- Securities discussed, with rating, target price, estimates
- Sector/industry classifications
- Country or Region
- Intended audience

By beginning with these fundamental pieces of information, we hope to guide parties interested in implementing RIXML. We hope to make the first step as impactful as possible. This list is just an executive summary, though. Continue on for more details about Level One.

How was RIXML Level One created?

In November 2005, the RIXML Implementation Working Group polled member firms for their highest-priority tags from the schema. Based on that exercise, the Group conducted a 2-day workshop in December to map out the Level One project. We came up with the following plan:

Table 2. Level One Project Plan.

Tasks
1. Survey the contribution file formats for common research platforms and make a consolidated list of vendor tags. (Most of the major vendors are Associate Members of the RIXML organization.)
2. Make note of the highest-priority tags identified by members in the November poll.
3. Given the vendor tags and the highest-priority tags identified in the first two steps, make note of the additional tags required by RIXML schema validation.
4. Vet the union of the vendor tags, highest-priority tags, and schema-required tags for consistency and good sense.
5. Review the definitions of those tags, as found in the "RIXML Users Guide". Improve and augment them, as necessary.
6. Author a "RIXML Level One" document, based on these tags and definitions.

We intend this document to be a practical guide to interpreting and acting on these tags and their possible values. It will address both contribution and ingest perspectives. This document will be revised alongside each RIXML release, just like the "RIXML Users Guide" and the "RIXML Change Log" documents.

What does it mean to support RIXML Level One?

Publishers will be required to support all tags in the RIXML Level One definition only if applicable to a particular publication. Not all tags will be present in every publication. The absence of a Level One tag from a particular RIXML file will mean that that tag does not apply in that file -- i.e. the publisher supports the tag, it was considered relative to that RIXML file, and the publisher determined that the most accurate, meaningful action was to omit it. Example: If the publication is an economic overview, with no reference to any specific company, the RIXML file for that publication will not include a SecurityID tag -- even though SecurityID is a Level One tag. It just doesn't apply to that publication.

Associate ("vendor platform") members will be required to support all Level One tags whenever populated by a publisher. Level One tags will be part of the data model behind each vendor platform, and each tag will participate in the platform in a substantive manner. Substantive participation will typically mean the ability of platform users to include the tag in searching and/or filtering criteria. Some tags may not be useful or meaningful in search actions, but participate in the context of entitlements instead. There may be other exception cases, as noted in subsequent sections of this document.

Terminology & Notation

In this document, and in other discourse, we use terms like element, tag, data item,etc.. In Table 3 we provide some notes on meanings and distinctions. Also, there is a notation used to refer to specific RIXML tags. Here is a sample of this notation.

Research.Product.Content.Resource.language

This refers to the “language” attribute of the “Resource” element. It also indicates that the parent element of “Resource” is “Content”, and the parent element of “Content” is the “Research” element. Since it appears at the beginning, we can infer that “Research” is the root element of the RIXML schema. When we show lists of RIXML tags in other parts of this document, we use this notation. It is useful because a particular tag, like “language”, may appear in many places within the schema. This notation disambiguates multiple occurrences.

Table 3. Notes on terminology.

Term	Meaning	Sample
Element	An XML element represents a piece of data. That data has a name. It may have attributes. It may have specific relationships with other elements.	<**BookTitle**> The Elements of Style </**BookTitle**>
Attribute	An XML attribute is a property associated with an element.	<BookTitle **language**=”eng”> The Elements of Style </BookTitle>
Tag	Either an XML element or attribute.	N/A
Data Item	A tag that has real data associated with it – i.e. not a container element.	N/A
Container Element	An XML element that does not have any real data value associated with it. It serves only as a container for grouping other elements and/or attributes.	<**Authors**> <Author> William Strunk, Jr. </Author> <Author> E. B. White </Author> </**Authors**>

Task 1: Vendor Tags

The first task in defining Level One was to survey the contribution file formats for common research platforms and make a consolidated list of vendor tags. We chose the following platforms to be our representative sample[2]: Bloomberg, FirstCall, ResearchDirect, Multex.Net, and TheMarkets.Com. After reviewing the contribution specifications from these vendors, we came up with this list of 38 tags. All have data associated with them. There are no tags in this list that are strictly container elements.

Research.Product.productID
Research.Product.Source.Organization.OrganizationID
Research.Product.Source.Organization.OrganizationID.idType
Research.Product.Source.Organization.PersonGroup.PersonGroupMember.Person.personID
Research.Product.Source.Organization.PersonGroup.PersonGroupMember.Person.DisplayName
Research.Product.Content.Title
Research.Product.Content.Resource.language
Research.Product.Content.Resource.MIMEType
Research.Product.Content.Resource.Name
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.primaryIndicator
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.SecurityID.idType
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.SecurityID.idValue
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.AssetClass.assetClass
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.AssetType.assetType
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.Rating.rating
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.SecurityFinancials.securityFinancialsType
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.SecurityFinancials.FinancialValue
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.SecurityFinancials.FinancialValue.estimateActual
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.SecurityFinancials.FinancialValue.period
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.SecurityFinancials.FinancialValue.periodYear
Research.Product.Context.IssuerDetails.Issuer.IssuerFinancials.FinancialValue
Research.Product.Context.IssuerDetails.Issuer.IssuerFinancials.FinancialValue.estimateActual
Research.Product.Context.IssuerDetails.Issuer.IssuerFinancials.FinancialValue.period
Research.Product.Context.IssuerDetails.Issuer.IssuerFinancials.FinancialValue.periodYear
Research.Product.Context.ProductClassifications.SectorIndustry.code
Research.Product.Context.ProductClassifications.SectorIndustry.classificationType
Research.Product.Context.ProductClassifications.SectorIndustry.focusLevel
Research.Product.Context.ProductClassifications.Subject.subjectValue
Research.Product.Context.ProductClassifications.Country.code
Research.Product.Context.ProductClassifications.Region.regionType
Research.Product.Context.ProductClassifications.KeywordClassifications.Keyword
Research.Product.Context.ProductDetails.publicationDateTime
Research.Product.Context.ProductDetails.ProductCategory.productCategory
Research.Product.Context.ProductDetails.ProductFocus.focus
Research.Product.Context.ProductDetails.EntitlementGroup.Entitlement.RegionEntitlement.Region.regionType
Research.Product.Context.ProductDetails.EntitlementGroup.Entitlement.AudienceTypeEntitlement.audienceType
Research.Product.Context.ProductDetails.EntitlementGroup.Entitlement.TimeEntitlement.endDateTime
Research.Product.StatusInfo.statusType

Task 2: Highest-Priority Tags

The second task in defining Level One was to make note of the highest-priority tags identified by members in the November poll. The poll was conducted as follows. Each RIXML member firm received a spreadsheet listing all the tags in schema, and instructions for indicating priority. Each firm could select a total of 20 tags to receive a priority rating of 1, 2, or 3, according to Table 4.

[2] There are certainly other research platforms in the marketplace, and other research platform vendors. The set of platforms chosen for this exercise is just a representative sample. The set has no other significance.

Table 4. Priority values and their meanings.

Priority Value	Meaning
1	“Must Have”
2	“Should Have”
3	“Nice To Have”

After the firms submitted their assessments, the results were averaged, and each tag was assigned an overall priority level. We chose to include tags with overall priority from 1.0 to 1.9 as our “highest-priority” tags. This led to a list of of 44 tags. 42 of the 44 have data associated with them – all but Research.Product and Research.Product.Source, which are container elements. 26 of the 44 are newly added relative to the vendor tag list.

1.2 Research.Product.Source.Organization.OrganizationName
1.2 Research.Product.Source.Organization.PersonGroup.PersonGroupMember.Person.personID
1.2 Research.Product.Context.ProductClassifications.SectorIndustry.code
1.3 Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.SecurityID.idType
1.3 Research.Product.Context.ProductDetails.ProductFocus.focus
1.3 Research.Product.Context.ProductDetails.publicationDateTime
1.4 Research.Product.Source.Organization.OrganizationID
1.4 Research.Product.Content.Title
1.4 Research.Product.Content.Resource.Name
1.5 Research.Product.Content.Resource.Comments
1.5 Research.Product.Context.ProductClassifications.SectorIndustry.primaryIndicator
1.5 Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.estimateAction
1.5 Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.primaryIndicator
1.5 Research.Product.Context.IssuerDetails.Issuer.IssuerID.idType
1.5 Research.Product.Context.IssuerDetails.Issuer.IssuerID.idValue
1.5 Research.Product.Context.ProductDetails.ProductCategory.publisherDefinedValue
1.5 Research.Product.Context.ProductDetails.ProductFocus.primaryIndicator
1.5 Research.Product.Context.ProductClassifications.Subject.subjectValue
1.6 Research.Product
1.6 Research.Product.Source.Organization.PersonGroup.PersonGroupMember.primaryIndicator
1.6 Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.SecurityName
1.6 Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.SecurityID.idValue
1.8 Research.Product.Source
1.8 Research.Product.Source.Organization.PersonGroup.PersonGroupMember.sequence
1.8 Research.Product.Source.Organization.PersonGroup.PersonGroupMember.Person.FamilyName
1.8 Research.Product.Content.Synopsis
1.8 Research.Product.Content.Resource.MIMEType
1.8 Research.Product.Content.Resource.resourceID
1.8 Research.Product.Content.Resource.primaryIndicator
1.8 Research.Product.Content.Resource.language
1.8 Research.Product.Content.Resource.Length.lengthUnit
1.8 Research.Product.Context.IssuerDetails.Issuer.primaryIndicator
1.8 Research.Product.Context.ProductClassifications.SectorIndustry.classificationType
1.8 Research.Product.Context.ProductClassifications.SectorIndustry.focusLevel
1.8 Research.Product.Context.ProductClassifications.SectorIndustry.Name
1.8 Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.coverageAction
1.8 Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.ratingAction
1.8 Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.targetPriceAction
1.8 Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.SecurityFinancials.Currency
1.8 Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.SecurityFinancials.yearType
1.8 Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.AssetClass.assetClass
1.8 Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.AssetType.assetType
1.8 Research.Product.Context.ProductDetails.EntitlementGroup.Entitlement.primaryIndicator
1.8 Research.Product.Context.ProductDetails.EntitlementGroup.Entitlement.AudienceTypeEntitlement.audienceType

Task 3: Schema-Required Tags

Given the vendor tags and the highest-priority tags identified in the first two tasks, the third task in defining Level One was to make note of the additional tags required by RIXML schema validation. We came up with this list of 58 newly added tags. 21 of the 58 have data associated with them. The other 37 are just container elements.

Research
Research.researchID
Research.createDateTime
Research.language
Research.Product.Source.Organization
Research.Product.Source.Organization.primaryIndicator
Research.Product.Source.Organization.type
Research.Product.Source.Organization.OrganizationName.nameType
Research.Product.Source.Organization.PersonGroup
Research.Product.Source.Organization.PersonGroup.PersonGroupMember
Research.Product.Source.Organization.PersonGroup.PersonGroupMember.Person
Research.Product.Content
Research.Product.Content.Resource
Research.Product.Content.Resource.Length
Research.Product.Context
Research.Product.Context.external
Research.Product.Context.IssuerDetails
Research.Product.Context.IssuerDetails.Issuer
Research.Product.Context.IssuerDetails.Issuer.issuerType
Research.Product.Context.IssuerDetails.Issuer.IssuerID
Research.Product.Context.IssuerDetails.Issuer.IssuerName
Research.Product.Context.IssuerDetails.Issuer.IssuerName.nameType
Research.Product.Context.IssuerDetails.Issuer.IssuerName.NameValue
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.SecurityID
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.AssetClass
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.AssetType
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.Rating
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.Rating.RatingEntity
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.Rating.RatingEntity.ratingEntity
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.SecurityFinancials
Research.Product.Context.IssuerDetails.Issuer.IssuerFinancials
Research.Product.Context.IssuerDetails.Issuer.IssuerFinancials.issuerFinancialsType
Research.Product.Context.ProductClassifications
Research.Product.Context.ProductClassifications.SectorIndustry
Research.Product.Context.ProductClassifications.SectorIndustry.level
Research.Product.Context.ProductClassifications.Subject
Research.Product.Context.ProductClassifications.Country
Research.Product.Context.ProductClassifications.Country.primaryIndicator
Research.Product.Context.ProductClassifications.Region
Research.Product.Context.ProductClassifications.Region.primaryIndicator
Research.Product.Context.ProductClassifications.KeywordClassifications
Research.Product.Context.ProductDetails
Research.Product.Context.ProductDetails.periodicalIndicator
Research.Product.Context.ProductDetails.ProductCategory
Research.Product.Context.ProductDetails.ProductFocus
Research.Product.Context.ProductDetails.EntitlementGroup
Research.Product.Context.ProductDetails.EntitlementGroup.Entitlement
Research.Product.Context.ProductDetails.EntitlementGroup.Entitlement.includeExcludeIndicator
Research.Product.Context.ProductDetails.EntitlementGroup.Entitlement.RegionEntitlement
Research.Product.Context.ProductDetails.EntitlementGroup.Entitlement.RegionEntitlement.Region
Research.Product.Context.ProductDetails.EntitlementGroup.Entitlement.RegionEntitlement.Region.primaryIndicator
Research.Product.Context.ProductDetails.EntitlementGroup.Entitlement.AudienceTypeEntitlement
Research.Product.Context.ProductDetails.EntitlementGroup.Entitlement.TimeEntitlement
Research.Product.StatusInfo
Research.Product.StatusInfo.statusDateTime
Research.Product.StatusInfo.currentStatusIndicator

Task 4: Good-Sense Tags

The last task in defining the list of tags in the Level One definition was to vet the union of the vendor tags, the highest-priority tags, and the schema-required tags for consistency and good sense. We came up with this list of 11 newly added tags. All have data associated with them.

Most add spots for publisher-defined values where enumerated attributes are already included for other reasons, and those attributes have “PublisherDefined” as a possible value.

Research.Product.Source.Organization.PublisherDefinedValue
Research.Product.Source.Organization.PersonGroup.PersonGroupMember.Person.GivenName
Research.Product.Content.SubTitle
Research.Product.Content.Abstract
Research.Product.Context.IssuerDetails.Issuer.IssuerID.publisherDefinedValue
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.SecurityID.publisherDefinedValue
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.Rating.PublisherDefinedValue
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.Rating.RatingEntity.PublisherDefinedValue
Research.Product.Context.ProductClassifications.Subject.publisherDefinedValue
Research.Product.Context.ProductClassifications.Region.publisherDefinedValue
Research.Product.Context.ProductDetails.EntitlementGroup.Entitlement.RegionEntitlement.Region.publisherDefinedValue

The Final List

Finally, we present the full list of all tags included in the RIXML Level One definition. There are 133 tags overall. 92 of the 133 tags have data associated with them. The other 41 are just container elements.

Research
Research.researchID
Research.createDateTime
Research.language
Research.Product
Research.Product.productID
Research.Product.Source
Research.Product.Source.Organization
Research.Product.Source.Organization.primaryIndicator
Research.Product.Source.Organization.type
Research.Product.Source.Organization.PublisherDefinedValue
Research.Product.Source.Organization.OrganizationID
Research.Product.Source.Organization.OrganizationID.idType
Research.Product.Source.Organization.OrganizationName
Research.Product.Source.Organization.OrganizationName.nameType
Research.Product.Source.Organization.PersonGroup
Research.Product.Source.Organization.PersonGroup.PersonGroupMember
Research.Product.Source.Organization.PersonGroup.PersonGroupMember.sequence
Research.Product.Source.Organization.PersonGroup.PersonGroupMember.primaryIndicator
Research.Product.Source.Organization.PersonGroup.PersonGroupMember.Person
Research.Product.Source.Organization.PersonGroup.PersonGroupMember.Person.personID
Research.Product.Source.Organization.PersonGroup.PersonGroupMember.Person.FamilyName
Research.Product.Source.Organization.PersonGroup.PersonGroupMember.Person.GivenName
Research.Product.Source.Organization.PersonGroup.PersonGroupMember.Person.DisplayName
Research.Product.Content
Research.Product.Content.Title
Research.Product.Content.SubTitle
Research.Product.Content.Abstract
Research.Product.Content.Synopsis
Research.Product.Content.Resource
Research.Product.Content.Resource.resourceID
Research.Product.Content.Resource.primaryIndicator
Research.Product.Content.Resource.language
Research.Product.Content.Resource.MIMEType
Research.Product.Content.Resource.Name
Research.Product.Content.Resource.Comments
Research.Product.Content.Resource.Length
Research.Product.Content.Resource.Length.lengthUnit
Research.Product.Context
Research.Product.Context.external
Research.Product.Context.IssuerDetails
Research.Product.Context.IssuerDetails.Issuer
Research.Product.Context.IssuerDetails.Issuer.issuerType

Research.Product.Context.IssuerDetails.Issuer.primaryIndicator
Research.Product.Context.IssuerDetails.Issuer.IssuerID
Research.Product.Context.IssuerDetails.Issuer.IssuerID.idType
Research.Product.Context.IssuerDetails.Issuer.IssuerID.publisherDefinedValue
Research.Product.Context.IssuerDetails.Issuer.IssuerID.idValue
Research.Product.Context.IssuerDetails.Issuer.IssuerName
Research.Product.Context.IssuerDetails.Issuer.IssuerName.nameType
Research.Product.Context.IssuerDetails.Issuer.IssuerName.NameValue
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.primaryIndicator
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.coverageAction
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.ratingAction
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.targetPriceAction
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.estimateAction
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.SecurityID
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.SecurityID.idType
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.SecurityID.publisherDefinedValue
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.SecurityID.idValue
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.SecurityName
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.AssetClass
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.AssetClass.assetClass
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.AssetType
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.AssetType.assetType
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.Rating
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.Rating.rating
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.Rating.PublisherDefinedValue
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.Rating.RatingEntity
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.Rating.RatingEntity.ratingEntity
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.Rating.RatingEntity.PublisherDefinedValue
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.SecurityFinancials
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.SecurityFinancials.securityFinancialsType
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.SecurityFinancials.yearType
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.SecurityFinancials.Currency
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.SecurityFinancials.FinancialValue
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.SecurityFinancials.FinancialValue.estimateActual
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.SecurityFinancials.FinancialValue.period
Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.SecurityFinancials.FinancialValue.periodYear
Research.Product.Context.IssuerDetails.Issuer.IssuerFinancials
Research.Product.Context.IssuerDetails.Issuer.IssuerFinancials.issuerFinancialsType
Research.Product.Context.IssuerDetails.Issuer.IssuerFinancials.FinancialValue
Research.Product.Context.IssuerDetails.Issuer.IssuerFinancials.FinancialValue.estimateActual
Research.Product.Context.IssuerDetails.Issuer.IssuerFinancials.FinancialValue.period
Research.Product.Context.IssuerDetails.Issuer.IssuerFinancials.FinancialValue.periodYear
Research.Product.Context.ProductClassifications
Research.Product.Context.ProductClassifications.SectorIndustry
Research.Product.Context.ProductClassifications.SectorIndustry.code
Research.Product.Context.ProductClassifications.SectorIndustry.level
Research.Product.Context.ProductClassifications.SectorIndustry.classificationType
Research.Product.Context.ProductClassifications.SectorIndustry.focusLevel
Research.Product.Context.ProductClassifications.SectorIndustry.primaryIndicator
Research.Product.Context.ProductClassifications.SectorIndustry.Name
Research.Product.Context.ProductClassifications.Subject
Research.Product.Context.ProductClassifications.Subject.subjectValue
Research.Product.Context.ProductClassifications.Subject.publisherDefinedValue
Research.Product.Context.ProductClassifications.Country
Research.Product.Context.ProductClassifications.Country.code
Research.Product.Context.ProductClassifications.Country.primaryIndicator
Research.Product.Context.ProductClassifications.Region
Research.Product.Context.ProductClassifications.Region.regionType
Research.Product.Context.ProductClassifications.Region.publisherDefinedValue
Research.Product.Context.ProductClassifications.Region.primaryIndicator
Research.Product.Context.ProductClassifications.KeywordClassifications
Research.Product.Context.ProductClassifications.KeywordClassifications.Keyword
Research.Product.Context.ProductDetails
Research.Product.Context.ProductDetails.publicationDateTime
Research.Product.Context.ProductDetails.periodicalIndicator
Research.Product.Context.ProductDetails.ProductCategory
Research.Product.Context.ProductDetails.ProductCategory.productCategory
Research.Product.Context.ProductDetails.ProductCategory.publisherDefinedValue

Research.Product.Context.ProductDetails.ProductFocus
Research.Product.Context.ProductDetails.ProductFocus.focus
Research.Product.Context.ProductDetails.ProductFocus.primaryIndicator
Research.Product.Context.ProductDetails.EntitlementGroup
Research.Product.Context.ProductDetails.EntitlementGroup.Entitlement
Research.Product.Context.ProductDetails.EntitlementGroup.Entitlement.primaryIndicator
Research.Product.Context.ProductDetails.EntitlementGroup.Entitlement.includeExcludeIndicator
Research.Product.Context.ProductDetails.EntitlementGroup.Entitlement.RegionEntitlement
Research.Product.Context.ProductDetails.EntitlementGroup.Entitlement.RegionEntitlement.Region
Research.Product.Context.ProductDetails.EntitlementGroup.Entitlement.RegionEntitlement.Region.primaryIndicator
Research.Product.Context.ProductDetails.EntitlementGroup.Entitlement.RegionEntitlement.Region.regionType
Research.Product.Context.ProductDetails.EntitlementGroup.Entitlement.RegionEntitlement.Region.publisherDefinedValu
e
Research.Product.Context.ProductDetails.EntitlementGroup.Entitlement.AudienceTypeEntitlement
Research.Product.Context.ProductDetails.EntitlementGroup.Entitlement.AudienceTypeEntitlement.audienceType
Research.Product.Context.ProductDetails.EntitlementGroup.Entitlement.TimeEntitlement
Research.Product.Context.ProductDetails.EntitlementGroup.Entitlement.TimeEntitlement.endDateTime
Research.Product.StatusInfo
Research.Product.StatusInfo.statusType
Research.Product.StatusInfo.statusDateTime
Research.Product.StatusInfo.currentStatusIndicator

Task 5: Definitions & Descriptions

In the next part of this document, we present definitions and descriptions of each tag in the list, with examples and notes on intended usage.

Legend

Element Name

attributeNames	XML example	Page Numbers in RIXML Users Guide

Comments about meaning and intended usage.

Research

researchID createDateTime language	<Research researchID=”550E8400-E29B-11D4-A716-446655440000” createDateTime=”1994-11-05T13:15:30Z” language=”eng”> ... </Research>	14

The topmost enclosing element for all RIXML instance documents is the Research element. For Level One compliance, it contains one and only one Product element. The Research element is required in every sense of the word. There are no permitted use cases that omit the Research element. Think of it as the container for everything else.

The researchID attribute is similarly required in all use cases. Please refer to the section of this document that describes how “identifiers” or “IDs” are used throughout the RIXML schema. Its purpose is to uniquely identify a particular Research element. For Level One compliance, the researchID must be a UUID, and should be the same as the productID and resourceID.

The createDateTime attribute marks the date and time at which the Research element was formed. That is, it marks the moment when a Product element was dropped into this Research element. This may be different from the date of publication of the research piece within the

contained Product element. Please refer to the section of this document that describes how date/time stamps are used throughout the RIXML schema.

The language attribute indicates the language of the particular RIXML instance document – i.e. the language of the publisher-supplied tag values contained in the document. Tag values are taken from the ISO 639-2/T code. For Level One compliance, the English language is required – i.e. a tag value of "eng".

Research.Product

productID	<Research> <Product productID="550E8400-E29B-11D4-A716-446655440000"> ... </Product> </Research>	15

For Level One compliance, the Research element contains one and only one Product element. The Product element is required in all use cases. It represents a single research publication. Examples: research note, research report, conference call webcast, morning meeting compilation.

The productID attribute is similarly required in all use cases. Please refer to the section of this document that describes how "identifiers" or "IDs" are used throughout the RIXML schema. Its purpose is to uniquely identify a particular Product element. For Level One compliance, the productID must be a UUID, and should be the same as the researchID and resourceID.

Level One does not include Legal or RelatedProduct elements as children of Product.

Research.Product.Source

	<Research> <Product productID="550E8400-E29B-11D4-A716-446655440000"> <Source> ... </Source> ... </Product> </Research>	16

For Level One compliance, the Source element contains one and only one Organization element. The Source element is required in all use cases. It represents the publisher of the research piece.

Research.Product.Source.Organization

type primaryIndicator	<Source> <Organization type="SellSideFirm" primaryIndicator="Yes"> ... </Organization> …. </Source>	16 59 72

For Level One compliance, the Source element contains one and only one Organization element. The Organization element is required in all use cases. It represents the primary publisher of the research piece. The primaryIndicator attribute must be present and set to “Yes”. The type attribute is required. Its values are taken from the OrganizationTypeEnum list. Level One does not incude ContactInfo elements as children of Organization.

Research.Product.Source.Organization.PublisherDefinedValue

	<Organization type=”PublisherDefined” primaryIndicator=”Yes”> <PublisherDefinedValue> IntergalacticCouncil </PublisherDefinedValue> ... </Organization>	17

This PublisherDefinedValue element is the partner of the type attribute. When the type attribute has a value of PublisherDefined, this element is necessary to hold the off-list entry. Should be rarely used.

Research.Product.Source.Organization.OrganizationID

idType	<OrganizationID idType=”L1”> 4ea49c00-ea68-11da-8ad9-0800200c9a66 </OrganizationID>	17

For Level One compliance, the Organization element contains one and only one OrganizationID element. The OrganizationID element is required in all use cases. The idType attribute must be present and set to “L1”. The element value is also required and must be a UUID identifying the publisher organization. Please refer to the section of this document that describes how “identifiers” or “IDs” are used throughout the RIXML schema. Note that the UUID for OrganizationID will not be the same as the one used for researchID, productID, and resourceID.

Research.Product.Source.Organization.OrganizationName

nameType	<OrganizationName nameType=”Display”> Credit Suisse </OrganizationName>	17 59

For Level One compliance, the Organization element contains one and only one OrganizationName element. The OrganizationName element is required in all use cases. The nameType attribute must be present and set to “Display”. The element value is also required and must be a short string identifying the publisher organization, suitable for use on a computer screen co-mingled with other publisher names. Examples: Credit Suisse, UBS, Bear Stearns, DrKW, etc.

Research.Product.Source.Organization.PersonGroup

	<PersonGroup> ... </PersonGroup>	18

For Level One compliance, the Organization element may contain one PersonGroup element or none at all. The PersonGroup element is a container used for specifying product authors. When not tagging for any authors, PersonGroup may be omitted entirely. Level One does not support ContactInfo inside PersonGroup.

Research.Product.Source.Organization.PersonGroupMember

sequence primaryIndicator	<PersonGroup> <PersonGroupMember primaryIndicator=”Yes” sequence=”1”> ... </PersonGroupMember> </PersonGroup>	18 72

For Level One compliance, the PersonGroup element must contain at least one PersonGroupMember element, but possibly many. The PersonGroupMember element is a container used for specifying a product author. Please refer to the section of this document that describes how sequence and primaryIndicator attributes are used throughout the RIXML schema. Though the primaryIndicator attribute is optional here according to the full schema, Level One compliance requires it. The sequence attribute is optional.

Research.Product.Source.Organization.PersonGroupMember.Person

personID	<PersonGroupMember primaryIndicator=”Yes” sequence=”1”> <Person personID=”bbc972c0-ea6c-11da-8ad9-0800200c9a66”> ... </Person> </PersonGroupMember>	18 19

The PersonGroupMember element contains one and only one Person element. It represents a single product author. The personID attribute is required in all use cases. Please refer to the section of this document that describes how “identifiers” or “IDs” are used throughout the RIXML schema. Its purpose is to uniquely identify a particular Person element. For Level One compliance, the personID must be a UUID. Note that the UUID for personID will not be the same as the one used for OrganizationID, researchID, productID, or resourceID. Level One does not support ContactInfo inside Person.

Research.Product.Source.Organization.PersonGroupMember.Person.FamilyName

	<Person personID=”bbc972c0-ea6c-11da-8ad9-0800200c9a66”> <FamilyName>Bovik</FamilyName> ... </Person>	19

The Person element contains one and only one FamilyName element. It is a string representing the family name (last name) of a single document author.

Research.Product.Source.Organization.PersonGroupMember.Person.GivenName

	<Person personID=”bbc972c0-ea6c-11da-8ad9-0800200c9a66”> <FamilyName>Bovik</FamilyName> <GivenName>Harry</GivenName>	19

	... </Person>	

The Person element may contain one optional GivenName element. It is a string representing the given name (first name) of a single document author.

Research.Product.Source.Organization.PersonGroupMember.Person.DisplayName

	<Person personID="bbc972c0-ea6c-11da-8ad9-0800200c9a66"> <FamilyName>Bovik</FamilyName> <GivenName>Harry</GivenName> <DisplayName>Harry Bovik</DisplayName> ... </Person>	19

The Person element may contain one optional DisplayName element. It is a string to be used when displaying the person's full name.

Research.Product.Content

	<Content> ... </Content>	22

For Level One compliance, the Content element contains one and only one Resource element. The Content element is required in all use cases. It describes the payload file of the research piece – typically a PDF file.

Research.Product.Content.Title

	<Content> <Title>Insights on Flash Memory Prices</Title> ... </Content>	22

The Title element is required in all use cases. It, combined with the subtitle, represents the headline of the product.

Research.Product.Content.SubTitle

	<Content> <Title>Insights on Flash Memory Prices</Title> <SubTitle>Ipods, Jump Drives, and more...</SubTitle> ... </Content>	22

The SubTitle element is an optional addition to the Title.

Research.Product.Content.Abstract

	<Content> <Title>Insights on Flash Memory Prices</Title> <SubTitle>Ipods, Jump Drives, and more...</SubTitle> <Abstract>	22

	Flash memory is a form of non-volatile memory that can be electrically erased and reprogrammed. Unlike EEPROM, it is erased and programmed in blocks consisting of multiple locations. Flash memory costs far less that EEPROM and therefore has become the dominant technology wherever a significant amount of non-volatile, solid-state storage is needed. Examples of applications include digital audio players, digital cameras and mobile phones. </Abstract> ... </Content>	

The Abstract element is an optional string element intended to offer a summary of the product. It should be longer than a synopsis.

Research.Product.Content.Synopsis

	<Content> <Title>Insights on Flash Memory Prices</Title> <SubTitle>Ipods, Jump Drives, and more...</SubTitle> <Abstract> Flash memory is a form of non-volatile memory that can be electrically erased and reprogrammed. Unlike EEPROM, it is erased and programmed in blocks consisting of multiple locations. Flash memory costs far less that EEPROM and therefore has become the dominant technology wherever a significant amount of non-volatile, solid-state storage is needed. Examples of applications include digital audio players, digital cameras and mobile phones. </Abstract> <Synopsis> New popular devices alter the landscape for flash memory modules. We discuss investment opportunities and risks... </Synopsis> ... </Content>	22

The Synopsis element is an optional string element intended to offer a brief summary of the product. It should be shorter than an abstract but longer than a title.

Research.Product.Content.Resource

resourceID primaryIndicator language	<Content> <Resource resourceID=”550E8400-E29B-11D4-A716-446655440000” primaryIndicator=”Yes” language=”eng”> ... </Resource> </Content>	22 23 24 72

For Level One compliance, the Content element contains one and only one Resource element. The Resource element describes the payload file of the product. The resourceID attribute is required in all use cases. Please refer to the section of this document that describes how “identifiers” or “IDs” are used throughout the RIXML schema. Its purpose is to uniquely identify a

particular Resource element. For Level One compliance, the resourceID must be a UUID, and should be the same as the productID and researchID. The primaryIndicator attribute must be present and set to “Yes”.

The language attribute indicates the language of the payload file. Tag values are taken from the ISO 639-2/T code. Examples: Payload files in the English language will have a language value of “eng”. Payload files in the Japanese language will have a language value of “jpn”.

The StatusInfo element as a child of Resource is not included in Level One.

Research.Product.Content.Resource.MIMEType

	<Resource resourceID=”550E8400-E29B-11D4-A716-446655440000” primaryIndicator=”Yes” language=”eng”> <MIMEType>application/pdf</MIMEType> ... </Resource>	23

The MIMEType element is required to indicate the type of media found in the payload file. It is used to determine the software application used for reading the file. Values can be found in RFC 2046.

Research.Product.Content.Resource.Name

	<Resource resourceID=”550E8400-E29B-11D4-A716-446655440000” primaryIndicator=”Yes” language=”eng”> <MIMEType>application/pdf</MIMEType> <Name>FLASHMEM.PDF</Name> ... </Resource>	23

The Name element provides the name of payload file that accompanies this particular RIXML instance document. While optional in the full schema, the Name element is required for Level One compliance. The file names used for the RIXML instance document and the payload file must be the same, except for the file name extension (.PDF, .XML, etc.) and must match the value of the Resource.Name element. Example:

RIXML file:	FLASHMEM.XML
Payload file:	FLASHMEM.PDF
Resource.Name:	FLASHMEM.PDF

Research.Product.Content.Resource.Length

lengthUnit	<Resource resourceID=”550E8400-E29B-11D4-A716-446655440000” primaryIndicator=”Yes” language=”eng”> <MIMEType>application/pdf</MIMEType> <Name>FLASHMEM.PDF</Name> <Length lengthUnit=”Pages”>12</Length> ...	24 48 59

	</Resource>	

The optional Length element gives an indication of the size of the payload. For PDF files, this will be in pages. For other types of files, such as audio or video clips, length will be measured in hours:minutes:seconds. When a Length element is included, the lengthUnit attribute is required to indicate which measure is being used.

Research.Product.Context

external	<Context external="Yes"> ... </Context>	30

The Context element is a required container element for many other pieces of data. The external attribute is also required. It indicates whether or not the research product is intended for use outside the publisher organization. If this particular RIXML instance document is reaching an organization outside the publisher the value should be "Yes". The EventDetails element as a child of Context is not included in RIXML Level One.

Research.Product.Context.IssuerDetails

	<Context external="Yes"> <IssuerDetails> ... </IssuerDetails> ... </Context>	30

The IssuerDetails element is an optional container element for other data describing issuers. If present, this element must contain at least one Issuer element.

Research.Product.Context.IssuerDetails.Issuer

issuerType primaryIndicator	<IssuerDetails> <Issuer issuerType="Corporate" primaryIndicator="Yes"> ... </Issuer> </IssuerDetails>	32 33 58 59 72

The Issuer element is used to associate a research product with an issuer. If an IssuerDetails element is included within the Context element, at least one, but possibly many, Issuer elements will also be included. The issuerType attribute is required, and must take its value from the IssuerTypeEnum enumeration. The primaryIndicator attribute is used in the same sense as elsewhere in the schema, and as described later in this document. The Rating, FinancialDates, SectorIndustry, Weighting, and ResourceLink elements as children of Issuer are not included in RIXML Level One.

Research.Product.Context.IssuerDetails.Issuer.IssuerID

idType publisherDefinedValue idValue	<Issuer issuerType="Corporate" primaryIndicator="Yes"> <IssuerID idType="CUSIP" idValue="037833100"/>	36 58

	<IssuerID idType=”PublisherDefined” publisherDefinedValue=”MyOwnID” idValue=”Apple”/> ... </Issuer>	

The Issuer element may contain zero or more IssuerID elements used to specify a symbol for the issuer. There are many different symbol sets used in investment research products. Publishers are encouraged to use more than one, so that vendors and customers can be certain which issuer is being discussed in the given product. The required idType attribute describes from which symbol set the value is taken. The idType attribute must take its values from the IssuerSecurityIDTypeEnum enumeration. The publisherDefinedValue attribute is used in the same sense as elsewhere in the schema, and as described later in this document. The actual symbol or ID is given as the value of the required idValue attribute.

Research.Product.Context.IssuerDetails.Issuer.IssuerName

nameType	<Issuer issuerType=”Corporate” primaryIndicator=”Yes”> <IssuerName nameType=”Display”> … </IssuerName> ... </Issuer>	36 57 58

The Issuer element must contain at least one IssuerName element used to specify a name for the issuer. The nameType attribute describes the kind of name provided. The required nameType attribute must take its values from the IssuerNameTypeEnum enumeration.

Research.Product.Context.IssuerDetails.Issuer.IssuerName.NameValue

	<IssuerName nameType=”Display”> <NameValue>Apple Computer</NameValue> </IssuerName>	36

The IssuerName element must contain one and only one NameValue element used to specify the actual name of the issuer.

Research.Product.Context.IssuerDetails.Issuer.SecurityDetails

	<Issuer issuerType=”Corporate” primaryIndicator=”Yes”> <SecurityDetails> … </SecurityDetails> ... </Issuer>	37

The SecurityDetails element is an optional container element for other data describing the securities of an issuer. If present, this element must contain at least one Security element.

Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security

primaryIndicator coverageAction ratingAction targetPriceAction estimateAction	<SecurityDetails> <Security primaryIndicator=”Yes” coverageAction=”Resume” ratingAction=”Upgrade” targetPriceAction=”Increase” estimateAction=”Upgrade”> … </Security> </SecurityDetails>	37 38 52 53 62 63 71 72

The Security element is an optional element for describing a security of an issuer. A security is a financial instrument of some type, often a common stock. A research product can be tagged with zero, one, or many securities. Securities featured in the product should be included and marked as primary. Securities given substantial mention in the product should be included also, but marked as non-primary. The required primaryIndicator attribute must be used in this fashion.

The optional coverageAction attribute signifies that the publisher is changing its coverage status for this security in this product. It takes its values from the CoverageActionEnum list. The optional ratingAction attribute signifies that the publisher is changing its rating for this security in this product. It takes its values from the RatingActionEnum list. The optional targetPriceAction attribute signifies that the publisher is changing its target price for this security in this product. It takes its values from the TargetPriceEnum list. The optional estimateAction attribute signifies that the publisher is changing its earnings estimates for this security in this product. It takes its values from the EstimateEnum list.

The FinancialDates, SecurityType, SectorIndustry, and Weighting elements as children of Security are not included in RIXML Level One.

Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.SecurityID

idType publisherDefinedValue idValue	<Security primaryIndicator=”Yes” coverageAction=”Resume” ratingAction=”Upgrade” targetPriceAction=”Increase” estimateAction=”Upgrade”> <SecurityID idType=”PublisherDefined” publisherDefinedValue=”TheOneTrueSymbology” idValue=”AAPL”/> … </Security>	40 58

The Security element must contain at least one SecurityID element used to specify a symbol for the security. There are many different symbol sets used in investment research products. Publishers are encouraged to use more than one, so that vendors and customers can be certain which security is being discussed in the given product. The required idType attribute describes from which symbol set the value is taken. The idType attribute must take its values from the IssuerSecurityIDTypeEnum enumeration. The publisherDefinedValue attribute is used in the same sense as elsewhere in the schema, and as described later in this document. The actual symbol or ID is given as the value of the required idValue attribute.

Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.SecurityName

	<Security primaryIndicator="Yes" coverageAction="Resume" ratingAction="Upgrade" targetPriceAction="Increase" estimateAction="Upgrade"> <SecurityID idType="PublisherDefined" publisherDefinedValue="TheOneTrueSymbology" idValue="AAPL"/> <SecurityName> Apple Computer Common Stock </SecurityName> … </Security>	37

The Security element may contain a single optional SecurityName element used to specify a name for the security.

Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.AssetClass

assetClass	<Security primaryIndicator="Yes" coverageAction="Resume" ratingAction="Upgrade" targetPriceAction="Increase" estimateAction="Upgrade"> … <AssetClass assetClass="Equity"/> … </Security>	38 49

The Security element must contain a single AssetClass element used to specify the asset class of the security. In Level One, the AssetClass element merely acts as a container for the assetClass attribute, which actually specifies the asset class from the AssetClass Enum list. The Rating and Weighting elements as children of AssetClass are not included in RIXML Level One.

Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.AssetType

assetType	<Security primaryIndicator="Yes" coverageAction="Resume" ratingAction="Upgrade" targetPriceAction="Increase" estimateAction="Upgrade"> … <AssetClass assetClass="Equity"/> <AssetType assettype="Stock"/> … </Security>	38 49 50 51

The Security element must contain a single AssetType element used to specify the asset type of the security. In Level One, the AssetType element merely acts as a container for the assetType

attribute, which actually specifies the asset type from the AssetType Enum list. The Rating and Weighting elements as children of AssetType are not included in RIXML Level One.

Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.Rating

rating	<Security primaryIndicator="Yes" coverageAction="Resume" ratingAction="Upgrade" targetPriceAction="Increase" estimateAction="Upgrade"> … <Rating rating="PositiveSentiment"/> … </Security>	44 63 64

The Security element may contain zero or more Rating elements used to specify a rating for the security. The required rating attribute is used to hold the actual rating value from the RatingEnum list. If not publisher defined, implementors should include the RIXML normalized rating in their data models. This should provide meaningful cross-publisher searching by rating to research consumers.

Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.Rating.PublisherDefinedValue

rating	<Security primaryIndicator="Yes" coverageAction="Resume" ratingAction="Upgrade" targetPriceAction="Increase" estimateAction="Upgrade"> … <Rating rating="PositiveSentiment"> … </Rating> <Rating rating="PublisherDefined"> <PublisherDefinedValue> Outperform </PublisherDefinedValue> … </Rating> … </Security>	44

This PublisherDefinedValue element is the partner of the rating attribute. When the rating attribute has a value of PublisherDefined, this element is necessary to hold the off-list entry. Non-publisher implementors of Level One need not keep publisher defined ratings in their data models. However, the presence of such a rating should not provoke any sort of failure mode either.

Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.Rating.RatingEntity

ratingEntity	<Rating rating="PositiveSentiment">	45

	<RatingEntity ratingEntity=”Publisher”/> </Rating>	63

The Rating element must contain a single RatingEntity element used to specify who issued the rating for the enclosing security. The required ratingEntity attribute is used to hold the actual rating value from the RatingEntityEnum list.

Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.Rating.RatingEntity.PublisherDefinedValue

	<Rating rating=”PositiveSentiment”> <RatingEntity ratingEntity=”PublisherDefined”> <PublisherDefinedValue> WeRateStocks.com </PublisherDefinedValue> </RatingEntity> </Rating>	45

This PublisherDefinedValue element is the partner of the ratingEntity attribute. When the ratingEntity attribute has a value of PublisherDefined, this element is necessary to hold the off-list entry. Non-publisher implementors of Level One need not keep publisher defined ratingsEntities in their data models. However, the presence of such a ratingEntity should not provoke any sort of failure mode either.

Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.SecurityFinancials

securityFinancialsType yearType	<Security primaryIndicator=”Yes” coverageAction=”Resume” ratingAction=”Upgrade” targetPriceAction=”Increase” estimateAction=”Upgrade”> … <SecurityFinancials securityFinancialsType=”EarningsPerShare” yearType=”Fiscal”> … </SecurityFinancials> … </Security>	39 40 66 67 72

The Security element may contain zero or more SecurityFinancials elements used to specify a financial value pertinent to the security. The required securityFinancialsType attribute is used to describe the financial value. Values must be chosen from the SecurityFinancialsTypeEnum list, such as EarningsPerShare and TargetPrice. The optional yearType attribute indicates whether fiscal year or calendar year applies to the value.

Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.SecurityFinancials.Currency

	<SecurityFinancials securityFinancialsType=”EarningsPerShare” yearType=”Fiscal”> <Currency>USD</Currency> …	40

	</SecurityFinancials>	

The SecurityFinancials element may contain a single Currency element to show the currency used in the financial values within. Represented by the three-letter alpha code defined by ISO 4217.

Research.Product.Context.IssuerDetails.Issuer.SecurityDetails.Security.SecurityFinancials.FinancialValue

estimateActual period periodYear	<SecurityFinancials securityFinancialsType="EarningsPerShare" yearType="Fiscal"> <Currency>USD</Currency> <FinancialValue estimateActual="estimate" period="Annual" periodYear="2006"> 2.25 </FinancialValue> </SecurityFinancials>	41 42 53 60

The FinancialValue element contains the actual data value. The required estimateActual attribute indicates whether the given value is an estimate or an actual value. The optional period and periodYear attributes put a time context around the value.

Research.Product.Context.IssuerDetails.Issuer.IssuerFinancials

issuerFinancialsType	<Issuer issuerType="Corporate" primaryIndicator="Yes"> <IssuerFinancials issuerFinancialsType="Earnings"> … </IssuerFinancials> ... </Issuer>	35 36 57

The Issuer element may contain zero or more IssuerFinancials elements used to specify a financial value pertinent to the issuer. The required issuerFinancialsType attribute is used to describe the financial value. Values must be chosen from the IssuerFinancialsTypeEnum list, such as Earnings and Revenue.

Research.Product.Context.IssuerDetails.Issuer.IssuerFinancials.FinancialValue

estimateActual period periodYear	<IssuerFinancials issuerFinancialsType="Earnings"> <FinancialValue estimateActual="estimate" period="Annual" periodYear="2005"> 1.98 </FinancialValue> </IssuerFinancials>	41 42 53 60

The FinancialValue element contains the actual data value. The required estimateActual attribute indicates whether the given value is an estimate or an actual value. The optional period and periodYear attributes put a time context around the value.

Research.Product.Context.ProductClassifications

	<Context external="Yes"> <ProductClassifications> ... </ProductClassifications> ... </Context>	31

This is an optional container element for all the tags available for use when classifying the research product. The Discipline, Index, AssetClass, AssetType, and SecurityType elements as children of ProductClassifications are not included in RIXML Level One.

Research.Product.Context.ProductClassifications.SectorIndustry

code classificationType level focusLevel primaryIndicator	<ProductClassifications> <SectorIndustry code="9576" classificationtype="ICB" level="4" focusLevel="Yes" primaryIndicator="Yes"> … </SectorIndustry> ... </ProductClassifications>	42 43 44 66 72

The SectorIndustry element is used for research products that feature a sector or industry focus. The ProductClassifications element may contain zero or more SectorIndustry elements. The required code and classificationType attributes combine to specify both the classification system used and the particular sector or industry within that classification system. For example, for computer hardware this could be ICB 9576 or GICS 45204010 or PublisherDefined 12345. The required level attribute indicates the level at which the given code sits in hierarchical classification systems. The required focusLevel attribute flags cases in which the given code represents the focus of the whole research product. The required primaryIndicator attribute is used as elsewhere. The Rating and Weighting elements as children of SectorIndustry are not included in RIXML Level One.

Research.Product.Context.ProductClassifications.SectorIndustry.Name

	<SectorIndustry code="9576" classificationtype="ICB" level="4" focusLevel="Yes" primaryIndicator="Yes"> <Name>Semiconductors</Name> … </SectorIndustry>	43

The SectorIndustry element must contain a single Name element showing the full name of the sector or industry. This complements the code attribute by making the information more human-readable.

Research.Product.Context.ProductClassifications.Subject

subjectValue publisherDefinedValue	<ProductClassifications> <Subject subjectValue="EarningsReview"/> <Subject subjectValue="PublisherDefined" publisherDefinedValue="Earnings Insights"/> ... </ProductClassifications>	34 35 71

The ProductClassifications element may contain zero or more Subject elements to indicate the subjects or topics of the research product. The required subjectValue attribute takes its values from the SubjectEnum list. The optional publisherDefinedValue attribute is used to hold the publisher's own subject when the subjectValue attribute has a value of PublisherDefined.

Research.Product.Context.ProductClassifications.Country

code primaryIndicator	<ProductClassifications> <Country code="US" primaryIndicator="Yes"/> ... </ProductClassifications>	41 72

The ProductClassifications element may contain zero or more Country elements to indicate the countries discussed in the research product. The required code attribute takes its values from the ISO 3166-1. The optional primaryIndicator attribute is used as elsewhere. RIXML Level One does not allow the Country element to contain any Rating or Weighting elements.

Research.Product.Context.ProductClassifications.Region

regionType publisherDefinedValue primaryIndicator	<ProductClassifications> <Region regionType="AsiaExJapan" primaryIndicator="Yes"/> <Region regionType="PublisherDefined" publisherDefinedValue="PacificIslands" primaryIndicator="No"/> ... </ProductClassifications>	42 64 65 72

The ProductClassifications element may contain zero or more Region elements to indicate the geographical regions discussed in the research product. The required regionType attribute takes its values from the RegionTypeEnum list. The optional publisherDefinedValue attribute is used to hold the publisher's own region name when the regionType attribute has a value of PublisherDefined. The optional primaryIndicator attribute is used as elsewhere. RIXML Level One does not allow the Region element to contain any Rating or Weighting elements.

Research.Product.Context.ProductClassifications.KeywordClassifications

	<ProductClassifications> <KeywordClassifications> … </KeywordClassifications> ... </ProductClassifications>	33

The ProductClassifications element may contain a single KeywordClassifications element to hold keywords relevant to the research product. It is purely a container element.

Research.Product.Context.ProductClassifications.KeywordClassifications.Keyword

	<KeywordClassifications> <Keyword>macintosh</Keyword> <Keyword>ipod</Keyword> <Keyword>itunes</Keyword> </KeywordClassifications>	36

The KewordClassifications element must contain at least one Keyword element to hold keywords relevant to the research product.

Research.Product.Context.ProductDetails

publicationDateTime periodicalIndicator	<Context external="Yes"> <ProductDetails publicationDateTime="2005-10-14T10:31:52Z" periodicalIndicator="No"> ... </ProductDetails> ... </Context>	31

The Context element may contain one ProductDetails element. The required publicationDateTime attribute indicates the date and time at which the product was officially published. This is the date and time that would appear on the product itself, or be displayed to a reader. The required periodicalIndicator attribute indicates whether or not the product is a periodical. The ProductSeries element is not included in Level One.

Research.Product.Context.ProductDetails.ProductCategory

productCategory publisherDefineValue	<ProductDetails publicationDateTime="2005-10-14T10:31:52Z" periodicalIndicator="No"> <ProductCategory productCategory="Comment"/> <ProductCategory productCategory="PublisherDefined" publisherDefineValue="Desknote"/> ... </ProductDetails>	33 61

The ProductDetails element must contain one ProductCategory element. It describes the manner or format that information is presented within the research product. The required productCategory attribute takes its values from the ProductCategoryEnum list. The optional

publisherDefinedValue attribute is used to hold the publisher's own category name when the productCategory attribute has a value of PublisherDefined.

Research.Product.Context.ProductDetails.ProductFocus

focus primaryIndicator	<ProductDetails publicationDateTime="2005-10-14T10:31:52Z" periodicalIndicator="No"> <ProductFocus focus="SectorIndustry" primaryIndicator="Yes"/> ... </ProductDetails>	33 34 54 72

The ProductDetails element must contain one ProductFocus element. It describes the main topic of the research product, typically – issuer, sector, country, etc.. The required focus attribute takes its values from the FocusEnum list. The required primaryIndicator attribute must be set to "Yes", as RIXML Level One restricts the cardinality to one.

Research.Product.Context.ProductDetails.EntitlementGroup

	<ProductDetails publicationDateTime="2005-10-14T10:31:52Z" periodicalIndicator="No"> <EntitlementGroup> … </EntitlementGroup> ... </ProductDetails>	35

The ProductDetails element may contain zero or more EntitlementGroup elements. Each acts purely as a container element for child Entitlement elements.

Research.Product.Context.ProductDetails.EntitlementGroup.Entitlement

primaryIndicator includeExcludeIndicator	<EntitlementGroup> <Entitlement primaryIndicator="Yes" includeExcludeIndicator="Include"> … </Entitlement> </EntitlementGroup>	37 54 55 72

The EntitlementGroup element must contain at least one Entitlement element. Each acts as a container for more specific entitlement types. Mostly used as a convenient receptacle for attributes that apply to all lower entitlement types. The required primaryIndicator attribute provides cues as to relative priority. The required includeExcludeIndicator attributes indicates the nature of the entitlement – i.e. whether the entitlement is permissive or dismissive. RIXML Level One allows child entitlement elements for region, audience type, and time, but not country or sector/industry.

Research.Product.Context.ProductDetails.EntitlementGroup.Entitlement.RegionEntitlement

	<EntitlementGroup>	39

	<Entitlement primaryIndicator=”Yes” includeExcludeIndicator=”Include”> <RegionEntitlement> … </RegionEntitlement> </Entitlement> </EntitlementGroup>	

The Entitlement element may contain one RegionEntitlement element. It acts as a container for one or more Region elements representing the geographic regions of the intended consumers of the research product.

Research.Product.Context.ProductDetails.EntitlementGroup.Entitlement.RegionEntitlement.Region

regionType publisherDefinedValue primaryIndicator	<EntitlementGroup> <Entitlement primaryIndicator=”Yes” includeExcludeIndicator=”Include”> <RegionEntitlement> <Region regionType=”AsiaExJapan” primaryIndicator=”Yes”/> </RegionEntitlement> </Entitlement> </EntitlementGroup>	42 64 65 72

The Entitlement element may contain one RegionEntitlement element. It acts as a container for one or more Region elements representing the geographic regions of the intended consumers of the research product. The required regionType attribute takes its values from the RegionTypeEnum list. The optional publisherDefinedValue attribute is used to hold the publisher’s own region name when the regionType attribute has a value of PublisherDefined. The optional primaryIndicator attribute is used as elsewhere. RIXML Level One does not allow the Region element to contain any Rating or Weighting elements.

Research.Product.Context.ProductDetails.EntitlementGroup.Entitlement.AudienceTypeEntitlement

audienceType	<EntitlementGroup> <Entitlement primaryIndicator=”Yes” includeExcludeIndicator=”Include”> <AudienceTypeEntitlement audienceType=”Institutional”/> </Entitlement> </EntitlementGroup>	38 39 51 52

The Entitlement element may contain one AudienceTypeEntitlement element. The required audienceType attribute takes its values from the AudienceTypeEnum list. It represents the type of audience the publisher intended to address with this research product.

Research.Product.Context.ProductDetails.EntitlementGroup.Entitlement.TimeEntitlement

endDateTime	<EntitlementGroup>	41

	<Entitlement primaryIndicator="Yes" includeExcludeIndicator="Include"> <TimeEntitlement endDateTime="2006-09-01T09:30:00Z"/> </Entitlement> </EntitlementGroup>	

The Entitlement element may contain one TimeEntitlement element. The endDateTime attribute is required in RIXML Level One. It is the date and time after which the product should not be read. The endDateTime attribute must be later on the time scale than the value of Research.Product.Context.ProductDetails.publicationDateTime.

Research.Product.StatusInfo

statusType statusDateTime currentStatusIndicator	<Product productID="550E8400-E29B-11D4-A716-446655440000"> <StatusInfo statusType="Published" statusDateTime="2006-03-22T08:02:56Z" currentStatusIndicator="Yes"/> ... </Product>	48 70 72

The Product element must contain one or more StatusType elements. Each describes the status of the research product at a certain point in time. Each time the product status changes, and the publisher adds a StatusInfo element, the statusDateTime must be set to reflect the point of change, and the currentStatusIndicator must be updated so that only one StatusInfo is marked as current. The required statusType attribute indicates the status of the product, taking its values from the StatusTypeEnum list. The required statusDateTime attribute marks the point at which the status took effect. And the required currentStatusIndicator attriubte shows which of possibly several StatusInfo elements represents the current status of the product.

Notables

In order to make it substantially easier for both publishers and vendors to use, certain capabilities found in the full schema were limited in Level One. This alleviates some of the complexity incurred by the full schema, and reduces the implementation costs of Level One. Here, we highlight some of those limitations for review.

English Tags

RIXML tag names are always in English. When using the full schema, RIXML tag values are relative to the Research.language attribute. They can be in any language chosen from the ISO 639-2/T list. However, in RIXML Level One we restrict tag values to the English language.

Cardinality

There are many instances where the cardinality relationship between elements is limited in Level One compared to the full schema. These changes are highlighted in Table 5.

Table 5. Limited cardinality relationships.

Parent Element	Child Element	Cardinality in Full Schema	Cardinality in Level One
Research	Product	One-or-More	One
Product	RelatedProduct	Zero-or-More	Zero
Product	Legal	Zero-or-More	Zero
Source	Organization	One-or-More	One
Organization	OrganizationID	One-or-More	One
Organization	OrganizationName	One-or-More	One
Organization	PersonGroup	Zero-or-More	Zero-or-One
Organization	ContactInfo	Zero-or-More	Zero
PersonGroup	PersonGroupMember	Zero-or-More	One-or-More
PersonGroup	ContactInfo	Zero-or-More	Zero
Person	ContactInfo	Zero-or-More	Zero
Content	Resource	Zero-or-More	One
Resource	StatusInfo	Zero-or-More	Zero
Context	EventDetails	Zero-or-One	Zero
ProductClassifications	Discipline	Zero-or-More	Zero
ProductClassifications	Index	Zero-or-More	Zero
ProductClassifications	AssetClass	Zero-or-More	Zero
ProductClassifications	AssetType	Zero-or-More	Zero
ProductClassifications	SecurityType	Zero-or-More	Zero
Issuer	Rating	Zero-or-More	Zero
Issuer	FinancialDates	Zero-or-One	Zero
Issuer	SectorIndustry	Zero-or-More	Zero
Issuer	Weighting	Zero-or-More	Zero
Issuer	ResourceLink	Zero-or-More	Zero
Security	FinancialDates	Zero-or-One	Zero
Security	SecurityType	Zero-or-One	Zero
Security	SectorIndustry	Zero-or-More	Zero
Security	Weighting	Zero-or-More	Zero
AssetClass	Rating	Zero-or-More	Zero
AssetClass	Weighting	Zero-or-More	Zero
AssetType	Rating	Zero-or-More	Zero
AssetType	Weighting	Zero-or-More	Zero
Country	Rating	Zero-or-More	Zero
Country	Weighting	Zero-or-More	Zero
Region	Rating	Zero-or-More	Zero
Region	Weighting	Zero-or-More	Zero
SectorIndustry	Rating	Zero-or-More	Zero
SectorIndustry	Weighting	Zero-or-More	Zero
ProductDetails	ProductSeries	Zero-or-More	Zero
ProductDetails	ProductFocus	One-or-More	One
Entitlement	CountryEntitlement	Zero-or-One	Zero
Entitlement	SectorIndustryEntitlement	Zero-or-One	Zero

Identifiers

Taking advantage of the limited cardinality relationships between the Research, Product, Content, and Resource elements, we require that the corresponding identifiers – researchID, productID,

and resourceID – share the same value for Level One compliance. This reduces the number of identifiers that must be generated by publishers and stored by vendors.

Level One differs from the full schema in another important aspect. Level One compliance requires that identifiers be UUIDs. The full schema only recommends it, leaving implementors free to use whatever strings they choose.

Identifying the Publisher

In the full schema, a publisher can specify several source organizations of different types. There may be complex inter-organizational collaboration projects that publish research products where this use case might be relevant. However, Level One does not support it. Level One only allows for a single primary publisher specified as a source organization. The primary publisher must be reflected in an OrganizationID element with idType attribute set to the newly introduced special value “L1” and in an OrganizationName element with nameType attribute set to “Display”. This imposes restrictions on otherwise flexible facilities, but it helps implementors to know with greater certainty how to identify the publisher.

Payloads

As shown in Table 5, only one Resource element is supported in Level One. Additionally, only payload files are supported. Embedded data payloads and remote URL payloads are not supported. There are also naming rules enforced by Level One. Except for the file name extensions, the file names of the RIXML instance document and the payload file must match. The value of the Resource.Name element in the RIXML instance document must also match the name of the payload file.

Common Attributes

Certain attributes are used throughout the RIXML schema. We explain some of them here so that they’re better understood when seen elsewhere.

primaryIndicator

There are many cases where data items are associated with a cardinality of “zero-or-more” or “one-or-more”. Examples... An issuer may be associated with zero-or-more securities. A security may be associated with one-or-more security IDs (tickers). A person-group may be associated with “one-or-more” persons. It is frequently desirable to mark some subset of the items on the “or-more” side of the association as primary. A person-group might have one particular associated person who is the leader of the group or “primary” person. In the context of a given research publication, one of many specified securities might be the “primary” focus of the piece. Many elements in RIXML can optionally include a *primaryIndicator* attribute, which can be set to “Yes” or “No”.

sequence

A companion to the primaryIndicator, *sequence* is used when marking a primary is insufficient and an explicit ordering is needed. Example... The securities associated with a given issuer must be displayed in a specific order. The optional *sequence* attribute can be set to any counting number.

PublisherDefined

Some data items in the RIXML schema take values only from an enumerated list. Example... The classificationType attribute of a SectorIndustry can take any of the following values: “GICS”, “ICB”, or “PublisherDefined”. GICS and ICB are well-known industry classification systems. However, a particular publisher may wish to specify an industry associated with a research piece based on the publisher’s own proprietary classification system or based on some new system not yet included in the RIXML list. The “PublisherDefined” value is used when a publisher does not find the desired value in the enumerated list. An attribute is set to “PublisherDefined”, and a companion tag is used to hold the publisher’s own value.

IDs

There are several instances within the RIXML schema where we employ the notion of “identifiers” or “IDs” to refer precisely to a particular entity. Some examples: researchID, productID, resourceID. To ensure uniqueness it is recommended that a Universally Unique IDentifier (UUID)[3] be used for this purpose. UUIDs can be generated on any computer, regardless of platform or operating system. A UUID is a 128-bit (16-byte) integer that is virtually guaranteed to be unique in the world across space and time. The Open Software Foundation (OSF) created UUIDs, as part of their Distributed Computing Environment (DCE). While the RIXML standard recommends this approach, it is not strictly required. IDs in the RIXML schema are strings, i.e. they have the “string” data type. When supporting the full RIXML schema, each publisher is technically free to use any values for IDs that qualify as strings according the the W3C XML Schema Definition[4]. Note, however, that RIXML Level One compliance requires use of UUIDs.

Date/Time Stamps

Marking a moment with a date and time is accomplished using ISO 8601 as refined by the W3C’s note[5]. In addition, RIXML requires the use of Zulu time or Z-time (GMT +/- n hours:minutes:seconds). All times are absolute and easier to compute, rather than using a relative time (e.g. 08:30 +5).

[3] http://en.wikipedia.org/wiki/UUID
[4] http://www.w3.org/TR/xmlschema-2/
[5] http://www.w3.org/TR/NOTE-datetime

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