



CEN/WS XBRL
CEN/WS XBRL - eXtensible Business Reporting Language (XBRL)
Email of secretary: maarten.peelen@nen.nl
Secretariat: NEN (Netherlands)

CEN WS XBRL CWA3-1

Document type: Working draft

Date of document: 2012-11-27

Expected action: INFO

Background: For discussion at the CEN/WS XBRL plenary meeting on 12 December in Frankfurt.

Committee URL: <http://cen.iso.org/livelink/livelink/open/cenwsxbri>

Improving transparency in financial and business reporting — Standard regulatory roll-out package for better adoption

XBRL Handbook for Declarers

ICS:

Descriptors:

Document type: CWA
Document subtype:
Document stage: Working Document
Document language: E

D:\XBRL\CEN
delivery\WS_XBRL_WI_003__European_Regulatory_Rollout_Package_Guide_Declarers_Handbook_Draft_20121
127.doc STD Version 2.4a

Project\First

Contents	Page
1	Scope5
2	Normative references5
3	Terms and definitions5
4	How to start with XBRL from the declarer's perspective7
5	XML and XBRL: Introduction to its technological building blocks8
5.1	XML8
5.1.1	XML as a markup language8
5.1.2	XML structures information9
5.1.3	Components of an XML document9
5.1.4	Namespaces10
5.1.5	Namespaces and prefixes11
5.1.6	UNICODE11
5.1.7	XML Benefits11
5.2	XML Schemas11
5.2.1	XML Schema Components11
5.2.2	Benefits of using XML Schema11
5.3	XLink11
5.4	Technological components used by XML and by XBRL12
5.4.1	XPath12
5.4.2	XSLT12
5.4.3	XQuery12
6	XBRL: Extensible Business Reporting Language13
6.1	High level description13
6.1.1	How to structure reporting data?13
6.1.2	XBRL Introduction14
6.2	XBRL Taxonomies14
6.2.1	Schemas14
6.2.2	Linkbases14
6.3	Extensibility15
6.3.1	Taxonomy Extensions15
6.3.2	Creating new relationships15
6.4	Dimensions15
6.4.1	The multidimensional model15
6.4.2	XBRL dimensions15
6.5	Formulas15
6.6	XBRL Reporting: Instance documents15
6.7	Validation of XBRL reports15

Foreword

This document is a working document.

This document has been prepared by CEN/WS XBRL, the secretariat of which is held by NEN.

This document is a working document.

- The foreword shall appear in each document and is automatically generated by the STD-template. It shall not contain requirements, recommendations, figures and tables.
- In case of a new edition of a document the foreword shall briefly outline any corrections and modifications. Detail of changes can be given in an annex.

Introduction

The set of recommendations included in this document aim to facilitate the implementation of European National Supervisors to adopt XBRL in any of the reporting frameworks. The following chapters will provide guidance on the use, understanding, preparation, and extension of their filings in eXtensible Business Reporting Language (XBRL).

This guidance is in the form of notes in association with the pertaining requirements clause and uses the terms “should” (recommendation), “may” (allowance) and “can” (possibility). Organizations wishing to implement this CWA would be expected to consider all recommendations where the term “should” is used.

- The introduction is an optional element used, if required, to give specific information or commentary about the technical content of the document, and about the reasons prompting its preparation. It shall not contain requirements.

1 Scope

COREP, FINREP (and Solvency II or other future) XBRL taxonomies are offered to European regulators for national implementation. The first releases (2006) of the COREP and FINREP XBRL frameworks have proven that a standardized technical roll-out package is needed to increase the adoption rate and avoid implementation variances, which have a detrimental effect on the overall cross-border effectiveness of using one reporting standard. This roll-out guide tries as well to promote the economies of scale of a better adoption.

This CWA has divided the work/deliveries in two different parts:

- i) An **XBRL supervisory roll-out guide**: this is oriented towards national regulators on how to implement, extend and manage XBRL taxonomies
- ii) An **XBRL handbook for declarers**: this is a roll-out guide or reference handbook would give a general introduction to XBRL and serve as a help to preparers of XBRL (reporting entities)

The scope of the current document is on the second part of the CWA; the XBRL handbook for declarers.

[DRAFT]

- This element shall appear at the beginning of each document and define without ambiguity the subject of the document and the aspects covered, thereby indicating the limits of applicability of the document or particular parts of it. It shall not contain requirements and recommendations.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN xyz:199x, *Title of the european standard*.

EN ab-c:199x, *General title of series of parts — Part c: Title of part*.

3 Terms and definitions

For the purposes of this document, **the following terms and definitions apply / the terms and definitions given in ... and the following apply.**

3.1

term

text of the definition

3.2

term

text of the definition

4 How to start with XBRL from the declarer's perspective

XBRL stands for eXtensible Business Reporting Language. It is a language for the electronic communication of business information, providing major benefits in the preparation, analysis and communication of business information. It offers cost savings, greater efficiency and improved accuracy and reliability to all those involved in supplying or using business information.

XBRL is increasingly adopted as communication standard by more and more regulators around the world. The entities which are providing this information to the regulators might initially see XBRL as just another way or format of the required information. However, XBRL provides many benefits for the declarer as well. All types of organisations can use XBRL to save costs and improve efficiency in handling business and financial information. Because XBRL is extensible and flexible, it can be adapted to a wide variety of different requirements. All participants in the financial information supply chain can benefit, whether they are preparers, transmitters or users of business data.

XBRL can be used with the help of various software tools, in a way that the user doesn't need to understand or even see the XBRL itself. However, a basic understanding of the basic components of XBRL allows the user to better grasp the potential benefits of XBRL.

The ambition of this document is **to explain the basic underpinnings of the XBRL standard**. Although these aspects might seem technical at first, all topics will be addressed in a general, comprehensible way.

This section is further being elaborated during the Workshop with the input from the other project teams.

5 XML and XBRL: Introduction to its technological building blocks

This chapter aims to give an overview of the basic technologies that underpin XBRL. Our aim is to give a general introduction of each component in order to obtain a better understanding of this reporting language. Since XBRL is built upon the XML language, the this chapter will focus on the basics of the XML standard, in particular the XML components which are also used by XBRL.

5.1 XML

XML, or e**X**tensible **M**arkup **L**anguage, is a W3C standard which enables the representation of structured data in the form of flat text. This simple and flexible text format is both machine readable and human readable. The XML specification, which is a derivative of SGML¹), uses elements and attributes in order to structure content. Although originally designed for the publication of information, XML is increasingly important in facilitating electronic communications.

In the chapters further below, we'll elaborate on the following topics:

- How XML is a markup language
- How XML enables the structuring of information
- What are the main components of an XML document
- Namespaces and prefixes
- Unicode
- XML benefits

5.1.1 XML as a markup language

Simply put, one can say that XML is a language for the codification of structured information. This coding, which is done via the use of "tags", is the main reason why XML is commonly referred as a **markup** language. As a basic example, the list below represents a list of books:

```
<book>On the Road</book>  
<book>The Catcher in the Rye</book>  
<book>The Hobbit</book>  
<book>The Name of the Rose</book>
```

The name of each book is delimited by two marks. The first mark contains an identifier enclosed in angle-brackets (<book>), indicating the beginning of a field. The second mark is equal to the first, but also contains a closing bracket (</book>), which indicates the end of a field. As a result, the content of each element of <book> is delimited by the opening and closing tags. With this method, a system that processes this information can easily identify the subject and aim of the provided information.

1) SGML (or Standard Generalized Markup Language) is an ISO-standard technology for defining generalized markup languages for documents. SGML itself descends from GML (Generalized Markup Language), which is developed by IBM in the 1960s.

5.1.2 XML structures information

In the previous example, only the element <book> was provided. The XML information model is however hierarchical: an element can contain other elements, which in turn can also contain other elements. This is made clear with the following example:

```
<library>
  <book>
    <title>On the Road</title>
    <author>Jack Kerouac</author>
  </book>
  <book>
  <book>
    <title>The Catcher in the Rye</title>
    <author>J. D. Salinger</author>
  </book>
  <book>
  <book>
    <title>The Name of the Rose</title>
    <author>Umberto Eco</author>
  </book>
  <book>
</library>
```

In the example above, the "library" element contains a set of "book" elements. Each of these "book" elements contains a "title" and an "author" element.

5.1.3 Components of an XML document

The most important components of an XML documents are the **elements**. Elements are defined by their name, their content (the value which is between the angled brackets, which can be null) and an indefinite number attributes. The example below shows an element with two attributes:

```
<element attribute1="attr-value1" attribute2="attr-value2">content</element>
```

An XML document may start with an **XML declaration**, where the used XML version is identified (typically 1.0) as well as the character encoding. This is followed by the first element. This element is called **root element**. This will have a number of undetermined "children" elements.

```
<?xml version="1.0" encoding="UTF-8">
<library>
  <!-- other items -->
</library>
```

TC XBRL WI XBRL003:2012 (E)

The example above shows an XML document which uses version 1.0, has UTF-8 encoding and has "library" as root element.

The XML specification defines an XML document as a text that is **well-formed**, i.e., it satisfies a list of syntax rules provided in the specification. This list is fairly lengthy, but some key points are:

- Only properly encoded legal Unicode characters are allowed.
- None of the special syntax characters such as "<" and "&" appear except when performing their markup-delineation roles.
- The begin, end, and empty-element tags that delimit the elements are correctly nested, with none missing and none overlapping.
- The element tags are case-sensitive; the beginning and end tags must match exactly.
- There is a single "root" element that contains all the other elements.

It is also possible to include **comments** in XML documents. These comments are not processed by applications and allow the inclusion of clarifications in the text document when deemed appropriate. Comments begin with the characters "<!--" and end with the characters "-->".

5.1.4 Namespaces

The naming scheme that is described above is relatively limited, as it can lead to conflicts between elements. Consider the following two examples:

```
<?xml version="1.0" encoding="UTF-8">
<library>
  <book author="J.R.R. Tolkien" language="English">The Lord of the Rings</book>
  <book author="Molière" language="French">Tartuffe</book>
</library>
```

```
<?xml version="1.0" encoding="UTF-8">
<xml-apps>
  <tool name="xmlstarlet" language="c"/>
  <tool name="trang" language="java"/>
  <tool name="xmldiff" language="python"/>
</xml-apps>
```

The first document contains a representation of a collection of books. One of the attributes of each book is the language in which it is written. In the second document a small collection of XML applications is shown. In this case the language attribute is also used, but here it is referring to the programming language, which has a distinct meaning.

In principle, a human person would have little difficulty in distinguishing the use of the same attribute in different contexts. In order to facilitate the automatic processing of information by a machine, ambiguities must be avoided as much as possible

XML namespaces are used for providing uniquely named elements and attributes in an XML document. A namespace defines a grouping of concepts. Within a namespace, each concept is identified uniquely by its local name. Globally, each concept is identified uniquely by its local name plus the identifier of its namespace (or qualified name). With the earlier two examples, could thus be represented in the following way:

Namespace	Local Name	Description
Literature	Language	Language, speech
Computer Sciences	Language	Programming language

But how to ensure that there is no naming conflict at the namespace level? How to ensure, for example, that there are different interpretations of the namespace "literature"? The unique identification of a namespace is achieved with the use of an URI (or Unique Resource Identifier).

A namespace is identified by a URI (Uniform Resource Identifier). This section is further being elaborated during the Workshop with the input from the other project teams.

5.1.5 Namespaces and prefixes

The use of prefixes is further being elaborated during the Workshop with the input from the other project teams.

5.1.6 UNICODE

The use of unicode is further being elaborated during the Workshop with the input from the other project teams.

5.1.7 XML Benefits

This section is further being elaborated during the Workshop with the input from the other project teams.

5.2 XML Schemas

This section is further being elaborated during the Workshop with the input from the other project teams.

5.2.1 XML Schema Components

This section is further being elaborated during the Workshop with the input from the other project teams.

5.2.2 Benefits of using XML Schema

This section is further being elaborated during the Workshop with the input from the other project teams.

5.3 XLink

This section is further being elaborated during the Workshop with the input from the other project teams.

5.4 Technological components used by XML and by XBRL

5.4.1 XPath

This section is further being elaborated during the Workshop with the input from the other project teams.

5.4.2 XSLT

This section is further being elaborated during the Workshop with the input from the other project teams.

5.4.3 XQuery

This section is further being elaborated during the Workshop with the input from the other project teams.

6 XBRL: Extensible Business Reporting Language

6.1 High level description

6.1.1 How to structure reporting data?

Before starting to explain XBRL, the usefulness of structuring reported data is shown with an example. Reported financial data tend to be represented a table format. For example, the COREP Capital Adequacy table looks this:

ID	Label	Legal References & Comments	Amount (a)
1	TOTAL OWN FUNDS FOR SOLVENCY PURPOSES	=1.1+1.2+1.3+1.6+	523
1.1	ORIGINAL OWN FUNDS	Eligible Tier 1 capital	323
1.1.1	Eligible Capital	1.1.1.1+1.1.1.2+1.1	215
1.1.1***	Of which: Instruments ranking pari passu with ordinary shares	Recital 4 of Directive	50
1.1.1****	Of which: Instruments providing preferential rights for dividend payment on a non-cumulative basis	Recital 4 of Directive	45
1.1.1.1	<i>Paid up capital</i>	Article 57, sentence .	210
1.1.1.2	<i>(-) Own shares</i>	Article 57, sentence .	-75
1.1.1.3	<i>Share premium</i>	Article 57, sentence .	55
1.1.1.4	<i>Other instruments eligible as capital</i>	Article 57, sentence .	25
1.1.2	Eligible Reserves	1.1.2.1+1.1.2.2+1.1	108

Such a representation of information is very human-readable. However, it is not ideal for machine interpretation, as it is not very structured. As a result, the following question comes to mind: How to **structure** this information, so that it can be transmitted and interpreted in a consistent way? For the purpose of this example, we'll focus on the "**Eligible Capital**" line, which is highlighted in yellow in the above example.

A first step would be to **tag** the amount of Eligible Capital in a way that it is **directly linked to the concept** of Eligible Capital:

```
<p-ca:EligibleCapital>215</p-ca:EligibleCapital>
```

Although this information is already quite structured, some contextual information is missing. Information like the **currency** of the amount:

```
<p-ca:EligibleCapital unitRef="EUR">215</p-ca:EligibleCapital>
```

And finally, the reporting **period**:

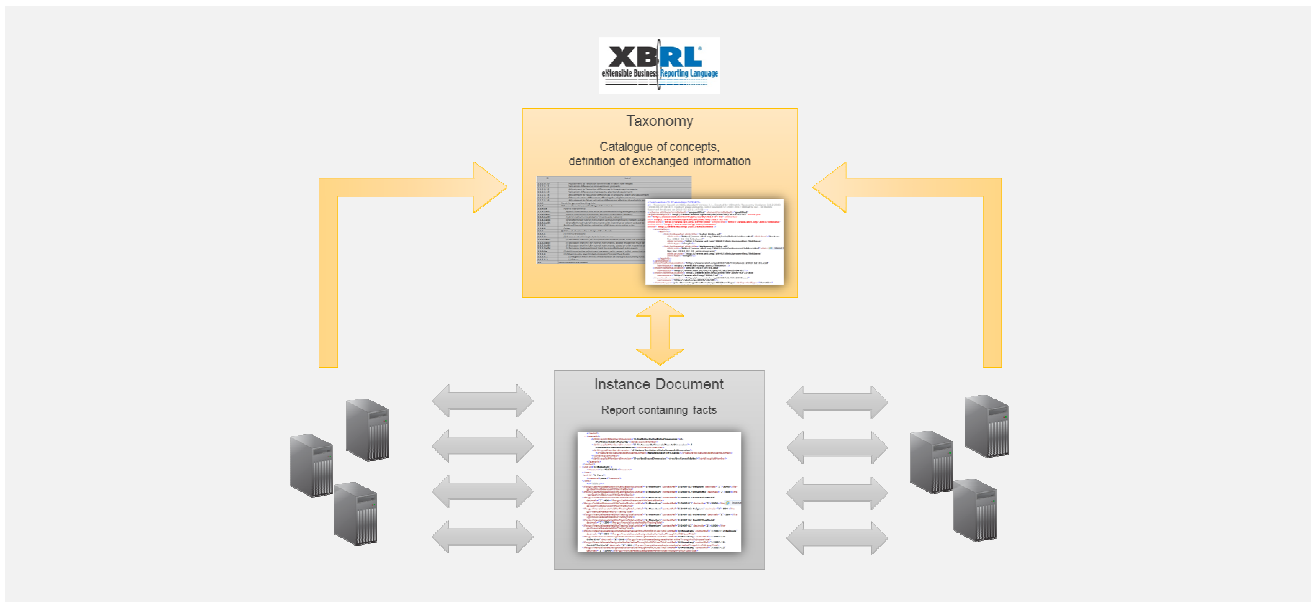
```
<p-ca:EligibleCapital unitRef="EUR" contextRef="2012-12-31">215</p-ca:EligibleCapital>
```

The above example shows, in a nutshell, how XBRL allows the structuring of reporting data.

6.1.2 XBRL Introduction

XBRL, or eXtensible Business Reporting Language, is a communication standard developed in order to simplify the exchange of business and financial data.

XBRL normalises the **format** of data (via the use of XML techniques) en the **validation** of data (via XBRL taxonomies)



An explanation on the link between taxonomies and instances documents is further being elaborated during the Workshop with the input from the other project teams.

XBRL also provides among others:

- Standard validation rules (mathematical and logical rules)
- The use of label linkbases (which allows multi-lingual taxonomies)
- The possibility to provide rendering
- Standard toolset which allow to work with XBRL

6.2 XBRL Taxonomies

This section is further being elaborated during the Workshop with the input from the other project teams.

6.2.1 Schemas

This section is further being elaborated during the Workshop with the input from the other project teams.

6.2.2 Linkbases

This section is further being elaborated during the Workshop with the input from the other project teams.

6.3 Extensibility

This section is further being elaborated during the Workshop with the input from the other project teams.

6.3.1 Taxonomy Extensions

6.3.2 Creating new relationships

6.4 Dimensions

This section is further being elaborated during the Workshop with the input from the other project teams.

6.4.1 The multidimensional model

6.4.2 XBRL dimensions

This section is further being elaborated during the Workshop with the input from the other project teams.

6.5 Formulas

This section is further being elaborated during the Workshop with the input from the other project teams.

6.6 XBRL Reporting: Instance documents

This section is further being elaborated during the Workshop with the input from the other project teams.

6.7 Validation of XBRL reports

This section is further being elaborated during the Workshop with the input from the other project teams.

Bibliography

[1] xxx

[2] xxx