

Inline XBRL XBRL Open Reporting

David Bell

Chief Technical Officer, UBPartner

http://www.ubpartner.com

XBRL Standards Board



Agenda

- Open Reporting Environment
- History how did we get here ?
- Inline
 - Technology
 - Experiences
- ESMA Challenges



Who?

- Originally with UBMatrix ... over 10 years ago
- Currently CTO for UBpartner
 - XBRL Solutions and Technology
- Active supporters of XBRL
 - Direct members of XBRL Europe and XII, supporters of Eurofiling
 - XBRL Standards Board and XBRL Working Groups
- World-wide projects
 - Belguim, France, Germany, Ireland, Israel, Italy, Korea, Luxembourg, Malta,
 Mexico, Morocco, Netherlands, Norway, Russia, UK, etc.



Open Reporting Environment

An environment where a preparer must make their own decisions about exactly which data points are to be reported.

This is commonly found in financial reporting where the reporting requirements are expressed as a set of principles that must be followed, rather than a specific set of data points that must be reported.

Open reporting environments may allow preparers to provide an extension taxonomy that defines any additional data points needed, although there are other approaches to implementing open reporting with XBRL.

Paul Warren, XII



Open Reporting Environment

- The opposite of "fill in the boxes"
- Financial reporting with no fixed chart of accounts
- Not form-based or template-based reporting
- What you'd invent if you wanted to make structured, electronic reporting as difficult as possible...
 - ... but this is how financial reporting is conducted in many places



HISTORY



Those mad Anglo-Saxons ..

- Principles based reporting
 - Common sections
 - Common terms and elements
- No fixed chart of accounts
 - Not form-based or template-based
 - Few mandatory items
- Presentation and layout
 - For many is considered important
 - Reporters have the legal right to present public accounts as they wish
 - Narrative accompanying text may also be important



UK Companies House

- Business register for all UK companies
- Eliminate paper submissions
 - Already partially digital
 - Existing XBRL taxonomy
 - Scanned documents, PDF, XBRL
- Move to fully digital information
 - More detailed company account information
 - Electronically consumable unlike scanned images and PDF
 - Compatibility with other departments
- Rendering / Presentation is a challenge
 - Legal obligation to present information in submission layout





UK HM Revenue & Customs

- Digital submission of all corporate tax information
- Eliminate paper submissions
- Move to electronic versions of
 - Tax calculations
 - CT600 tax declarations
 - Company accounts
- Prohibit 'non consumable' documents
 - Scanned documents
 - PDF documents
- Commonality with Companies House
 - Same document acceptable to both departments





XBRL environment at the time

- NL SBR Programme / AZ SBR Programme
 - National Taxonomy
 - Forms based
 - Standardised charts of accounts
 - Cross department
- US SEC Programme
 - Extension taxonomies
 - SEC viewer
 - EDGAR Filing Rules
 - XBRL publication



Challenges

- Extension taxonomies add a lot of extra complexity
- Duplication and inconsistencies of having both 'human readable' and electronic documents
- Fixed format reporting is unsuitable for accounts documents
- Plain XBRL is unfit for human consumption
- Specialised viewers and renderers are barriers to consumption



Approach

- UK-GAAP and UK-IFRS taxonomies
 - Wide range of available elements superset of reported items
 - Dimensional place-holders for controlled user specific use
 - Discouragement of extensions
- Creation of Inline XBRL standard to allow a single document that can
 - Provide all required data elements in a standard format XBRL
 - Provide a faithful rendering of the information for users
 - Be validated before submission
 - Be displayed in a standard web browser
 - Be published without requiring modification
 - Be consumed electronically



INLINE XBRL



- A mechanism for annotating HTML documents with XBRL information
- Allows a single document that can
 - Be displayed using standard web browser technology
 - Be easily converted to XBRL and consumed by other applications
 - Retains all of the context provided by the user
- XBRL data can be extracted directly from the document
 - Converts into "standard" XBRL
 - Can be validated and checked like any other XBRL document
 - Can be transformed and repurposed



- Allows documents to serve multiple purposes
 - Producers can present the information in a way that makes most sense to them and their business
 - Consumers can display the document and see the data in context no need for a separate rendered version
 - Consuming applications can extract the data
- Avoids some of the issues seen elsewhere
 - Specialised viewer software
 - Fixed format reporting
 - Inability to annotate existing documents

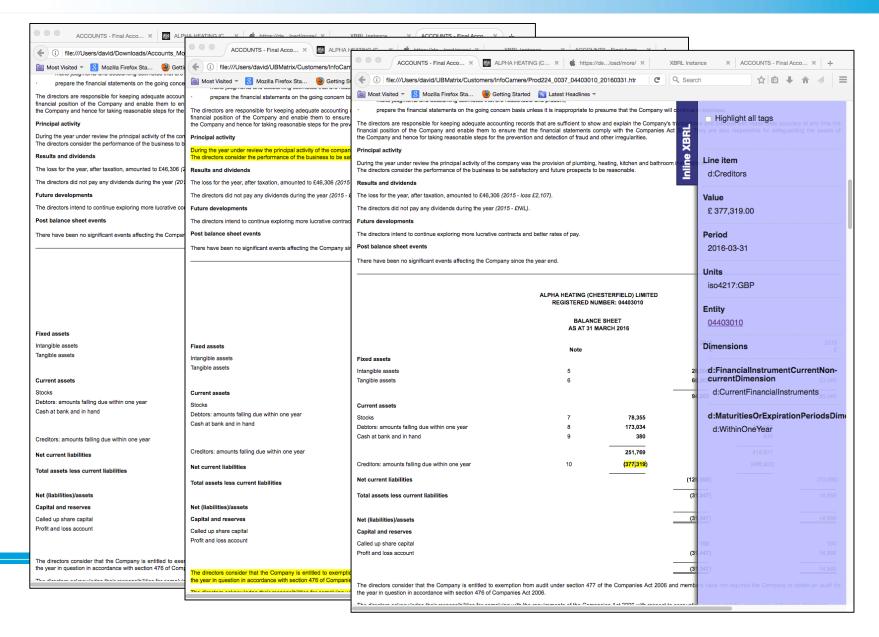


- Display in a browser
 - Is standard XHTML (HTML 4.0) as far as the browser is concerned
 - Can use all of the standard XHTML elements to lay out the document
 - Browser ignores the Inline XBRL annotations
- Browser extensions and enhancements
 - Can use Java Script to provide extra functions
 - Find tags
 - Show details, etc



- Is not a replacement for the presentation or table linkbases
- Presentation and table linkbases provide
 - Logical grouping of elements
 - reports, tables, sections, sub-sections
 - Semantic information
 - groupings, hierarchies, roll-ups, roll-forwards
 - Context and navigation
 - users still need to be able to find items in the taxonomy
 - Layout for closed reporting
 - Tables and forms







SAMPLE INLINE XBRL



INLINE XBRL STANDARD AND MECHANICS



Inline XBRL Standard

- Standard since 2010 (V1.0) and updated in 2013 (V1.1)
- Provides a mechanism for
 - Embedding XBRL information into XHTML documents
 - Converting XHTML input documents into XBRL output documents
 - Converting common report data formats (numeric, date, ...) into XBRL/XML formats
- Covers all of the instance document features specified by the XBRL 2.1 and Dimension 1.0 specifications



Inline XBRL Standard

- Defines the rules for conversion into XBRL
 - Inputs can be one or more XHTML documents
 - Outputs can be one or more XBRL documents
 - However most regulators stipulate single input and output documents
- Conversion to XBRL does not require taxonomy knowledge
 - No need for an XBRL processor in order to produce XBRL
 - However valid Inline XBRL documents can still result in invalid XBRL
 - XBRL validation is therefore still required



Inline XBRL Standard

- Defines a set of transformation libraries (currently V3) to allow conversion of common data formats into XBRL formats
 - Booleans
 - Dates
 - Numeric formats
- Allows users to keep standard text in the document such as "1st December 2016 " - but have it transformed correctly to the XBRL value 2016-12-01.



Inline XBRL Document Structure

- The XHTML contains several sections to provide all of the non-fact related XBRL information in non-displayed elements
- All of this content is identical or equivalent to that found in a normal XBRL document
 - Taxonomy references
 - Contexts and units
 - Footnote relationships
- The content is annotated with specific Inline XBRL tags that encapsulate the detailed information



Fact Tags

- Fact elements surround the data to be tagged
 - ix:nonNumeric string based information including boolean and date types
 and other items without units
 - ix:nonFraction monetary and other numeric data
 - ix:fraction so far never seen in the wild!
 - ix:tuple tuple container definition
 - ix:footnote footnote data string or well-formed XHTML
- Additional items
 - ix:exclude exclude text from within a tag
 - ix:continuation concatenate pieces of text



Non-visible Tags

- Other tags non-visible
 - ix:header grouping for non-fact XBRL data
 - ix:references taxonomy references
 - ix:resources grouping for roles, contexts, units
 - ix:relationship linking of footnotes and facts
 - ix:hidden grouping for tagged items that do not appear in the document content
 - meta-data items about the filer or filing
 - tuple structure definitions



Inline XBRL Document Structure

A normal HTML 4.0 / XHTML 1.0 document plus "extra" XBRL tags

10. Creditors: Amounts falling due within one year

	£	£
Bank overdrafts	1,660	-
Bank loans	82,504	62,369
Trade creditors		330,753
Corporation tax	Bank overdrafts	4,295
Taxation and soc		63,283
Other creditors	<pre>1,660</pre>	23,403
Accruals and def	<pre> - </pre>	2,800
		486,903

2015

2016



Inline XBRL Document Structure

- Basically a normal HTML 4.0 / XHTML 1.0 document plus "extra" XBRL tags
- 10. Creditors: Amounts falling due within one year

	£	£
Bank overdrafts	<mark>1,660</mark>	-
Bank loans	82,504	62,369
Trade creditors		330,753
Corporation tax	Bank overdrafts	4,295
Taxation and soc		63,283
Other creditors	<pre></pre>	23,403
Accruals and def	<pre><ix:nonfraction <="" contextref="c11" name="uk-gaap:BankOverdrafts" td=""><td>2,800</td></ix:nonfraction></pre>	2,800
	1,660	486,903
	<pre></pre>	
	<pre><ix:nonfraction <="" contextref="c21" name="uk-gaap:BankOverdrafts" td=""><td></td></ix:nonfraction></pre>	
	-	

2016

2015



Fact Tagging

```
Called up share capital 100
Profit and loss account (31,447)
```



Transformations

- Conversion of displayed items into an XBRL format
- Specified by "format" attribute
 - Booleans true and false
 - Dates short dates, long dates, month-year
 - Numeric different separators, embedded currency symbols, dashes for zero

```
1,254.00
                                                                     1254.00
                           ixt:numcommadot
   1.254,00
                           ixt:numdotcomma
                                                    ->
                                                                     1254.00
                           ixt:numzerodash
                                                    ->
'Company is dormant'
                           ixt:booleantrue
                                                    ->
                                                                       true
                           ixt:datedaymonthyearen ->
  1st Jan 2017
                                                                    2017-01-01
   5.21.2017
                           ixt:datemonthdayyear
                                                                    2017-05-21
 21 / 4 /2017
                           ixt:datedaymonthyear
                                                                    2017-04-21
                                                    ->
  १९ सितंबर २०१२
                            ixt:datedaymonthyearin ->
                                                                     2012-09-19
```



Exclude / Continuation

- Sometimes we don't want to tag everything
 - Headers / footers
 - Page numbers
- The <ix:exclude> tag can be used to ignore parts of text.
- Sometimes we want to group text from different places
 - At different levels in the document
 - Using <ix:exclude> becomes too complicated
- Use <ix:continuation> to join pieces of text



Exclude / Continuation

```
Here is some text to include followed by a page number to be excluded
Page 2 of 7
XYZ Annual Report
And then some more text to add, except this bit, to give the fact value
Here is some text to include followed by a page number to be excluded
Page 2 of 7
<h1>XYZ Annual Report</h1>
>
And then some more test to add, except this bit, to give the fact value
XBRL Result
<ae:BalanceSheetComment contextRef="c2">
Here is some text to include followed by a page number to be excluded
And then some more text to add, to give the fact value
</ae:BalanceSheetComment>
```



Exclude



Continuation Chain

```
>
<ix:nonFraction contextRef="c2" name="ae:BalanceSheetComment" continuedAt="cont1" >
     Here is some text to include followed by a page number to be excluded
 </ix:nonFraction>
Page 2 of 7
   >
   <h1>XYZ Annual Report</h1>
   <a>>
 <ix:continuation id="cont1" continuedAt="cont2" >
   And then some more text to add,
 </ix:continuation>
   except this bit,
 <ix:continuation id="cont2">
   to give the fact value
 </ix:contination>
```



INLINE XBRL SAMPLES



Samples

- UK Financial Reporting Council
 - http://87.106.250.202/FRC/index.html
- Companies House Archives
 - https://beta.companieshouse.gov.uk
 - http://download.companieshouse.gov.uk/en_monthlyaccountsdata.html



INLINE XBRL IN THE REAL WORLD



Current Implementations

- Denmark Annual accounts for Business Register
 - DK-GAAP, DK-IFRS with and without extensions
- Ireland Annual accounts for Corporation Tax
 - UK FRC taxonomies with IE-FRS (GAAP) and IE-IFRS extensions
 - No user extensions
- Japan Annual accounts for listed companies
 - EDINET GAAP based taxonomy with user extensions
- UK Annual accounts for Business Register and Corporation Tax
 - UK FRC taxonomies FRS (GAAP) and IFRS other taxonomies allowed US-GAAP
 - No user extensions



Irish Revenue

- 300 000 Corporate Tax Filings per year
- Most are IE-FRS-101/102 the successor to IE-GAAP
- Rest are IFRS
- Mandatory item checks performed by XBRL Formula
- Support for both Inline XBRL 1.0 and 1.1
- In production since 2013



Irish Revenue

- Pilot period
 - Large filers first
 - Extended to all filers
- Relatively simple addition to existing system
 - Extra step to perform validation of XBRL in place of PDF handling



Document Creation

- Variations on 3 themes
 - Insert Inline XBRL tags into existing documents
 - Insert data into prepared templates
 - Produce Inline XBRL directly from reporting systems
- Filing software
 - For small accounts, most accounting and tax software providers incorporate
 Inline XBRL solutions
 - Larger accounts opt for more sophisticated tagging tools or outsource



Things to look out for ...

- Duplicated information
 - Same data may appear in more than one place
 - It must be tagged consistently in all places
- Transformations
 - Application of correct transformations
 - Omission of transformations
- Dimensional Tagging
 - Must tag with the correct dimensions
 - Usually there are sensible defaults
- Tools should assist here



Inline XBRL versus XBRL

- Convenient common format for both people and machines
- For people
 - Inline allows the document to be read in a browser
 - Keeps the layout of the author
 - Maintains other data and narrative that are not part of the formal filing
 - Simple bowser extensions allow the underlying tagged data to be revealed
 - Assurance that 'what you see' is the same as the data extracted electronically
 - Easy to review and sign off



Inline XBRL versus XBRL

- For machines Inline XBRL retains all the benefits of XBRL
 - Document can be read electronically
 - Formal data items that are tagged can be extracted
 - Data can be validated
 - Rules can be applied
 - Analysis can be performed



Conversion from XBRL to Inline XBRL

- Why?
 - "Liberate" data locked up in XBRL documents
 - Allow people to read them
 - Publish once for people and machines
 - Provide consistent view of data according to taxonomy
- Sample conversion
 - XSLT conversion that renders XBRL as Inline XBRL according to the presentation linkbase



INLINE XBRL PROCESSING



ESMA CHALLENGES



Challenges

- Extension taxonomies
 - Biggest unknown how much is required and how will it change over time?
 - Are country specific extensions required ?
 - Best Practices
 - Fit with local legislation
 - Avoid filers having to prepare multiple documents
- Inline XBRL production
 - Will require a new tool set
 - However, the problems are not new and have been solved elsewhere



Challenges

- Extension taxonomies
 - Biggest unknown how much is required and how will it change over time?
 - After initial extension, company taxonomies should be stable
 - Much will depend on taxonomy updates and IFRS alignment
 - Really want to avoid the complexities of US SEC
- Inline XBRL production
 - Will require a new tool set
 - However, the problems are not new and have been solved elsewhere



Challenges

- Standards
 - Will require updates to Inline XBRL standards
 - Support of EU locales date formats in particular
 - On the WG to-do list, but requires inputs
 - Feedback to XBRL Base Specification Working Group (INT-SPEC)
- Tasks for XBRL-NL Community
 - Taxonomy Extensions
 - Review and update the current transformations

XBRL NL

