OIM is the Future

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How did we get here?

- Back in 2006…
  - … well I was young
  - CEBS had selected **XBRL** for European Bank reporting…
  - Dutch were thinking deeply about **SBR** …
  - … and **ESEF** reporting was just a dream.
  - Issues being discussed were dimensions and file size.
- So, today …
  - Well, lets start with some home truths…

Challenges: Wide range of reporting requirements

- XBRL developed over time
  - … and like all good developments we added bits
  - … we found some bits that we were not sure how to use or where to put.
  - … hey, but we kept them (in the shed/attic) just in case someone needed them
- The world also did not stand still around us…
  - Some tech came and went…
  - … some became mainstream… Big Data, JSON, the Cloud, etc.
- XBRL is one of the **HUGE SUCCESS** stories for Open Standards

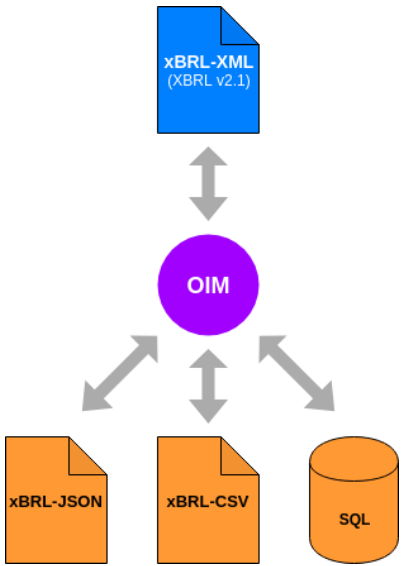
So where next?

- The boys and girls at XII ‘are gonna fix it for us’ – hooray!
- They have been thinking ‘deeply’ about XBRL in the future
  - What is an open standard…?
  - Is XBRL just about the format, or more about how to exchange data, it’s semantics and relationships?
  - Is XML the right, wrong or ‘not only’ platform?
  - Can we make it simpler?
- Voila ! – we have OIM
  - Like all Open standards, XBRL needs time and people to develop…
  - PEOPLE … LIKE YOU ?

So why Should we ALL adopt OIM

- All developers face some issues with XBRL today:
  - Part of success is XBRL being used in numerous ways, on numerous platforms
  - Data collection requirements always grow
- Two key issues
  - Very Large Datasets
    - Current XBRL generates big files – bandwidth to upload, resources to validate and analyse
    - CSV has been the ubiquitous format for such data and very efficient for granular data
  - Data exploitation
    - Users want to be able to use the data easily and integrate it in a variety of ways
    - JSON is the 'new' (trendy) way of looking at data, lots of useful tools
- What is the alternative?
  - Less standardisation and more costs for users and vendors

The Open Information Model



- **OIM:** A syntax-independent model of an XBRL report
- It enables Users to work with XBRL data in the format that makes most sense
  - A truly open standard !
  - Highly flexible for different applications.
- It aims to simplify
  - Reducing costs of development… and maintenance
- It provides a platform to further extend XBRL
  - So, can be serialised into more standardised representations
- It has a real model and its documented
  - Unlike in 2006

Old and new still need to work, but the Future is OIM !

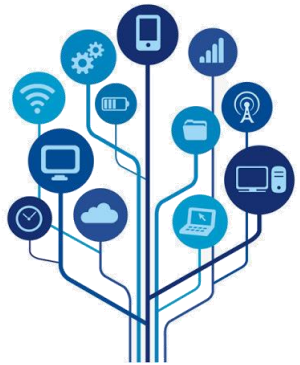
The Technical Case for OIM

OIM: The Technical Case

- **XBRL** is all about Standardisation
  - It is easier to standardise using simpler building bricks (look at Lego)
- OIM: Aims to **simplify** and **unify** XBRL features
  - No tuples
  - No complex typed dimensions
  - No segment/scenario (except for dimensions)
  - Generalisation of footnotes into links
- Simplification **makes it easier** to develop XBRL tools and applications
- Applications that digest XBRL can **become more standardised**
  - Less costs
  - Less maintenance

OIM: delivers choice to the developer

- **xBRL-XML**
  - Existing market of mature software
  - Good for existing regulatory / monitoring collection systems
- **xBRL-JSON**
  - Easier for developers to work with who want to show / render the data
  - Good for semantic databases, NoSQL, etc.
- **xBRL-CSV**
  - Very compact for bulk, record-based data
  - Good for granular reporting



xBRL-JSON

- Clearest representation of the model
  - Easy to read and understand
- JSON is popular for rendering data on the web and for semantic databases
- So - more developers and more tools to exploit the XBRL data


```
"Fact-B90BB051582C5EE9E2AD8C6C79A5CE80": {
    "dimensions": {
        "concept": "dei:EntityCommonStockSharesOutstanding",
        "entity": "cik:0001652044",
        "period": "2018-04-19T00:00:00",
        "unit": "xbrli:shares",
        "us-gaap:StatementClassOfStockAxis": "goog:CapitalClassCMember"
    },
    "value": "348952225"
}
```

xBRL-CSV

- CSV remains ubiquitous
- Extremely efficient representation of record-based data

```
firm,size,country inc,limit,pct collateralized,interest,start,maturity
F50EOCWSQFAUVO9Q8Z97,ld:Small,UK,10000000,.70,.040,2001-06-01,2020-12-31
AX378AEV345CAME93E45,ld:Medium,US,20000000,.50,.020,2010-03-01,2019-12-31
QWEE5SFSYV452DRG3483,ld:Micro,PL,30000000,.30,.030,2016-09-01,2017-10-31
```

- Size reduction of over 80% common on typical datasets
  - Reduces communications and resources
- CSV is aso a standard output for many systems.

However, OIM CSV is not normal CSV….

Example – XBRL modelling

Typed Dimension	Concept	Concept	Unit Dimension	Concept	Concept
Loan ID	**Country**	**Interest rate**	**Loan currency**	**Loan amount (local currency)**	**Loan amount (Euros)**
9209384832	France	4.10%	EUR	10,000.00	10,000.00
2398773298	UK	3.80%	GBP	14,000.00	17,242.00
2433551234	USA	4.40%	USD	16,000.00	15,512.00
2343243443	Germany	4.50%	EUR	20,000.00	20,000.00

Provides dimension for all facts in row

Provides unit dimension for fact in next column only

Standing data (common to all facts):

- Entity identifier
- Period

JSON metadata: Document Info section

```
"documentInfo": {
    "documentType": "http://xbrl.org/YYYY/xbrl-csv",
    "namespaces": {
        "ld": "http://example.com/taxonomy/loan-data",
        "geog": "http://example.com/taxonomy/geography",
        "lei": "http://standards.iso.org/iso/17442",
        "iso4217": "http://www.xbrl.org/2003/iso4217"
    },
    "taxonomy": [
        "http://example.com/taxonomy/loan-data.xsd"
    ]
},
```

- Document-level definitions required to understand the rest of the document
- Declares:
  - **Document type** – "this is an xBRL-CSV report"
  - **Namespace prefixes** – used for values in the report
  - **Taxonomy** – URL to metadata definitions

JSON metadata: report-level data

- Default dimension / decimals values for facts in the report
- Declares:
  - **Entity identifier** – common to all facts
  - **Period** – common to all facts (".." shorthand denotes an inclusive range of days)
  - **Decimals** – default value for decimals property for numeric facts

```
"dimensions": {
    "entity": "lei:00EHHQ2ZHDCFXJCPCL46",
    "period": "2019-01-01..2019-12-31"
},
"decimals": 2,
```

JSON metadata: table templates

- Define the structure of one or more CSV files

```
"tableTemplates": {
    "loan_data_template": {
        "columns": {
            "loan_id": {},
            "country": {
                "dimensions": {
                    "concept": "eg:Country"
                }
            },
            "rate": {
                "dimensions": {
                    "concept": "eg:InterestRate"
                },
                "decimals": 4
            },
            "loan_currency": {},
            "loan_amount_lc": {
                "dimensions": {
                    "concept": "eg:LoanAmount",
                    "unit": "$loan_currency"
                }
            },
            "loan_amount_hc": {
                "dimensions": {
                    "concept": "eg:LoanAmountHC",
                    "unit": "iso4217:EUR"
                }
            }
        },
        "dimensions": {
            "eg:LoanId": "$loan_id"
        }
    }
},
```

Columns with "dimensions" produce facts

Dimensions are common to all facts in column

Overrides default decimals for facts in this column

Facts in this column will have units defined in "loan_currency" column

Dimensions common to all facts in table

All facts will have "eg:LoanId" typed dimension, with value from "loan_id" column

Metadata re-use

- xBRL-CSV is designed to support regulator-defined table structure
- JSON metadata can include external metadata via extends keyword
- Reporters provide minimal metadata referencing regulator's definitions:

```
{
  "documentInfo": {
    "documentType": "http://xbrl.org/CR/2020-05-06/xbrl-csv",
    "extends": [ "https://regulator.example.com/loan-report.json"]
  }
}
```

xBRL-CSV Summary

- Simple CSV format supported by flexible, JSON-based metadata framework
- Backed by existing XBRL Taxonomy definitions
- Support for regulatory reporting environments:
  - Metadata can be defined by regulator
  - Regulators can restrict metadata modification by filers
  - Filers simply define a prescribed set of CSV files
- Support for other use cases:
  - xBRL-CSV provides self-describing XBRL reports
  - Can be used to publish bulk data sets
- xBRL-CSV specification is at Candidate Recommendation status
  - Conformance suite is under development

The case for adopting OIM

- Fully leverages XBRL validation and metadata, but simplifies, so
  - Less development, easier maintenance
  - JSON is very useful representation
  - CSV provides very substantial reductions in report size and can simplify data preparation
- Both formats are accessible and easily understood by developers
- Use of OIM gives access to existing tools market:
- OIM enables lossless transformation of data into other formats


The future's bright ...
The future's OIM
Photo by

Questions