Collaborate | Advocate | Standardise

xBRL-CSV

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Paul Warren
Technical Director, XBRL International

@xbrlint

Background

The **Open Information Model** (OIM) is a strategic initiative to **simplify** and **modernise** XBRL.

The OIM initiative has included the development of two new formats for XBRL reports: **xBRL-CSV** and **xBRL-JSON**

Why do we need OIM?

(it was)

- "Current" version of XBRL is v2.1
- XBRL v2.1 was finalised in 2003
- In 2003, XML seemed like a pretty neat idea

OIM Goals

- Separate (XML) syntax from semantics
- Unify model — natively multi-dimensional
- Remove complex but little-used features

Sounds great, but how does it help me?

Two new standardised formats for XBRL Reports:

xBRL-JSON

Makes XBRL data very easy to consume

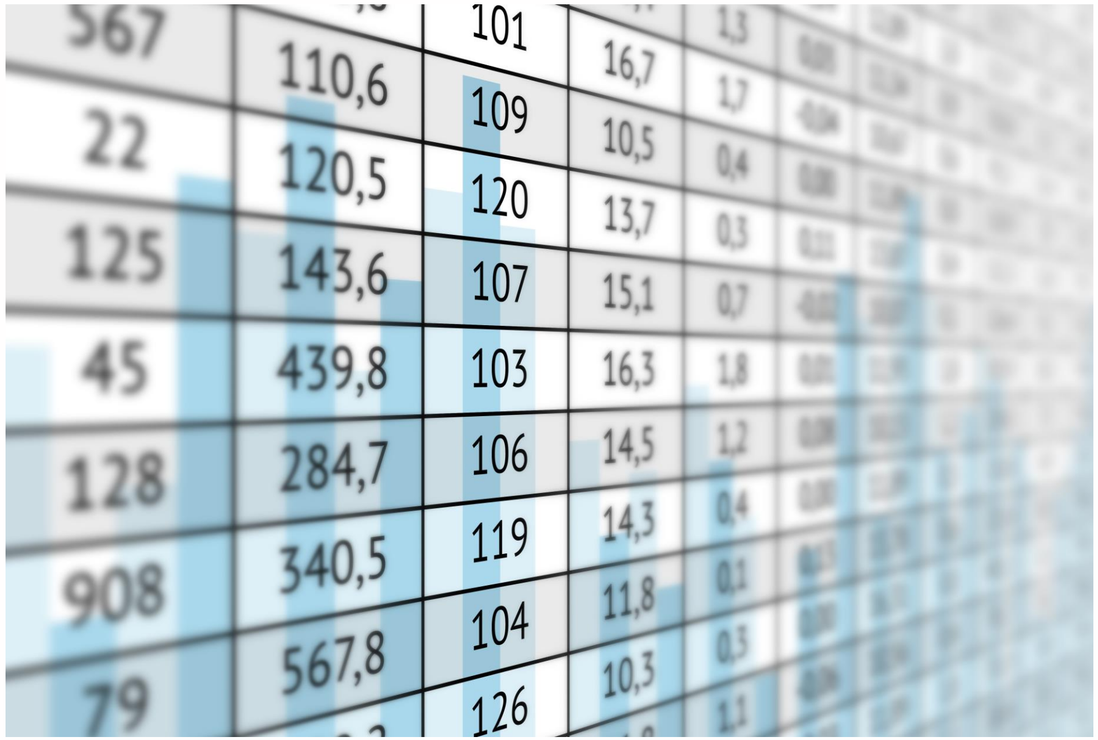
xBRL-CSV

Ideal for large volume, granular reports

Easy to define new, interoperable formats (SQL?) because the model is defined.

xBRL-CSV

- Originally a proof-of-concept for the OIM model
- Now a new and extremely powerful format it its own right
- Simplicity and compactness of CSV
- Rich metadata and validation of XBRL
- Good for tabular data
- Very good for granular data



xBRL-CSV

How does it work?

- Not one-size-fits-all for every shape of XBRL report
- Uses JSON metadata to define a mapping from CSV tables to XBRL data
- Enables *very* efficient CSV tables

```
loan_id,lei,original_loan_amount,loan_amount,interest_rate
1479,ABCD007543218DA6AF30,720000,643220,0.0342
1256,ABCD007543218DA6AF30,524000,926000,0.0412
4565,ABCD007543218DA6AF30,975000,1157604,0.0489
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```

This defines 35 XBRL facts

xBRL-CSV efficiency

Those same 35 facts in xBRL-XML

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<!--extracted from OIM /home/pdw/xbrl-conferences/20211118-MA/reports2/loan_report.json-->
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  xmlns:lei="http://www.xbrl.org/taxonomy/int/lei/2020-07-02"
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```

xBRL-CSV

Typical reporting scenario

- Regulator publishes:
  - XBRL Taxonomy
    - Datatypes
    - Labels (multi-language), definitions (multi-language), references
    - Formula validation rules
  - xBRL-CSV metadata file
    - Defines mapping from CSV tables to XBRL data
- Filer provides
  - CSV files
  - (packaged in a ZIP with a trivial JSON file)

xBRL-CSV vs CSV

xBRL-CSV is backed by XBRL taxonomies giving:

- Data typing (string, monetary, LEI)
- Multi-dimensional model for analysis
- Concept and dimension definitions with multi-language labels
- References to authoritative definitions
- Formula validation
- Unit registry and validation (ISO4217 currencies, physical units, ESG units)
- Easy, lossless conversion to other formats (e.g. JSON)

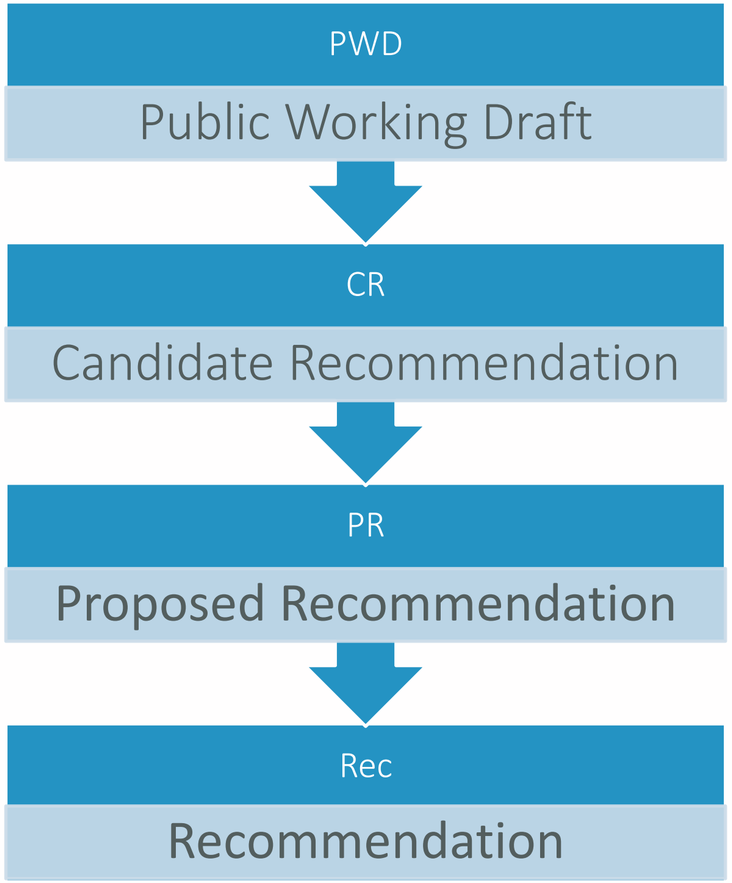
A data collector can publish their complete reporting requirements using an open standard (XBRL Taxonomy + xBRL-CSV metadata) and start collecting

Current Status

xBRL-CSV, **xBRL-JSON** and the **XBRL Open Information Model** (OIM) were approved as an **XBRL International Recommendation** on 13th October 2021.

What does Recommendation status mean?

- **Recommendation** is the final maturity level in our standardisation process and carries a firm commitment to **stability**.
- **Recommendation** status indicates that the specification is now ready for widespread adoption and implementation.
- The specifications are accompanied by a **conformance test suite**, and we have at least **two independent implementations** that pass the suite.
- The specifications will now only be updated to incorporate errata corrections.
  - Such updates are only permitted to address defects in the specification (i.e. typos and ambiguous or unimplementable wording)



What happens next?

- The finalised specifications move into maintenance mode, and the Working Group will work to expand the conformance suites and resolve any interoperability issues.
- XBRL International is making plans to expand its Software Certification programme to incorporate xBRL-CSV and xBRL-JSON.
- The OIM Working Group is now looking at developing a taxonomy model (to accompany the OIM Report Model).
- The Formula Working Group is working on applying XBRL Formula to xBRL-CSV.

Applying Formula Rules to xBRL-CSV

Current status

- xBRL-CSV is based on OIM, which is a subset of xBRL-XML (aka XBRL v2.1), so a conformant processor can convert to xBRL-XML for validation exactly as before.
- The transformation to xBRL-XML is defined by the specification, and software exists that can do this transformation.
- In other words, **XBRL Formula validation is available today**, but transforming to XML largely negates the performance benefits of using xBRL-CSV.

XBRL Formula Rules without XML

OIM Safe Formula

- The Formula Working Group is working to formalise an "OIM safe" subset of Formula.
- "OIM Safe" = "no operations that require an XML document to evaluate"
- This will not materially limit XBRL Formula capabilities:
  - Most well-written Formula Rules are already OIM-safe
  - Operations that currently require XML access will be handled by new functions

OIM Safe Formula

Not a standing start

- Processors already exists that can operate in an XML-free mode, it's just not standardised functionality.
- Significant work has already been done to identify non-OIM Safe rules in published taxonomies and new functions to address this have already been published.
- The definition of "OIM Safe XPath" has been in a working group draft for a number of years

Summary

- xBRL-CSV, xBRL-JSON and OIM have been finalised
- Software supporting these specifications already exists
- XII Software Certification for these standards is coming soon
- Formula rules can run today, via XML conversion
- Work on "OIM Safe Formula" – a formalisation of something that already exists – is well underway
- xBRL-CSV and xBRL-JSON are ready for use today

OIM expands the XBRL toolbox

- **iXBRL** for open corporate reporting
- **xBRL-CSV** for closed tabular reporting – including high volume granular reports
- **xBRL-JSON** for consuming and analysing XBRL data
- **XBRL v2.1** remains fully supported and maintained

All backed by the rich metadata and validation provided by XBRL Taxonomies