

mit Unterstützung von  
with the support of

 **Bundesanzeiger  
Verlag**

**EBA**  
EUROPEAN  
BANKING  
AUTHORITY



**XBRL | EUROPE**

hosted by



**EUROPEAN CENTRAL BANK**

**EUROSYSTEM**

**EUROFILING XBRL WEEK IN FRANKFURT 6-7-8-9 JUNE 2017**

19<sup>th</sup> XBRL Europe day | Eurofiling 23<sup>rd</sup> workshop | Tutorials | Academic Track

# XBRL TECHNICAL UPDATE

PAUL WARREN  
DAVID BELL

Frankfurt,



# AGENDA

XSB and Working Group Update

LEI Taxonomy

Overview of xBRL-CSV

Inline XBRL

Overview of Assertion Sets 2.0

Formula Language Initiative

Q + A

mit Unterstützung von  
with the support of

 **Bundesanzeiger  
Verlag**

**EBA**  
EUROPEAN  
BANKING  
AUTHORITY

 **Eiopa**

 **eurofiling**

**XBRL | EUROPE**

hosted by



**EUROPEAN CENTRAL BANK**  
EUROSYSTEM

**EUROFILING XBRL WEEK IN FRANKFURT 6-7-8-9 JUNE 2017**

19<sup>th</sup> XBRL Europe day | Eurofiling 23<sup>rd</sup> workshop | Tutorials | Academic Track

**XSB AND WORKING GROUPS**

**DAVID BELL  
UBPARTNER & XSB**

Frankfurt,



# STATE OF THE NATION

XBRL Standards Board (XSB)

Technical Working Groups



# XBRL STANDARDS BOARD

Sets high-level technical direction

Oversees working groups

Approves general direction

Ensures that the processes are followed



# XSB STRATEGIC GOALS

Evolve

Simplify

Support



# WORKING GROUPS

Manage and maintain the standards

Introduce new standards and updates

In line with the XSB strategic goals

In response to requirements and use-cases from the market

In line with the standards process



# WORKING GROUPS

Base Spec

Corporate Actions

Formula

General Ledger

Open Information Model

Rendering

Versioning



# WORK IN PROGRESS

Assertion Sets 2.0 - PWD

Concept Filters 1.1 - PWD

Dimension Filters 1.1 - PWD

Extensible Enumerations 1.1 - PR

Open Information Model 1.0 - CR

- XBRL-CSV – PWD
- XBRL-JSON – CR
- XBRL-XML – CR

Streaming Extensions 1.0 - CR



# WORK IN PROGRESS

Specifications web site <https://specifications.xbrl.org>

## Working Groups

- Mailing lists
- Regular calls
- Face-face meetings (they were yesterday, so you missed them!)

mit Unterstützung von  
with the support of

 **Bundesanzeiger  
Verlag**

**EBA**  
EUROPEAN  
BANKING  
AUTHORITY

  
EIOPA

  
eurofiling

**XBRL** | **EUROPE**

hosted by   
**EUROPEAN CENTRAL BANK**  
EUROSYSTEM

**EUROFILING XBRL WEEK IN FRANKFURT 6-7-8-9 JUNE 2017**

19<sup>th</sup> XBRL Europe day | Eurofiling 23<sup>rd</sup> workshop | Tutorials | Academic Track

**LEI TAXONOMY**

**PAUL WARREN**  
XBRL INTERNATIONAL

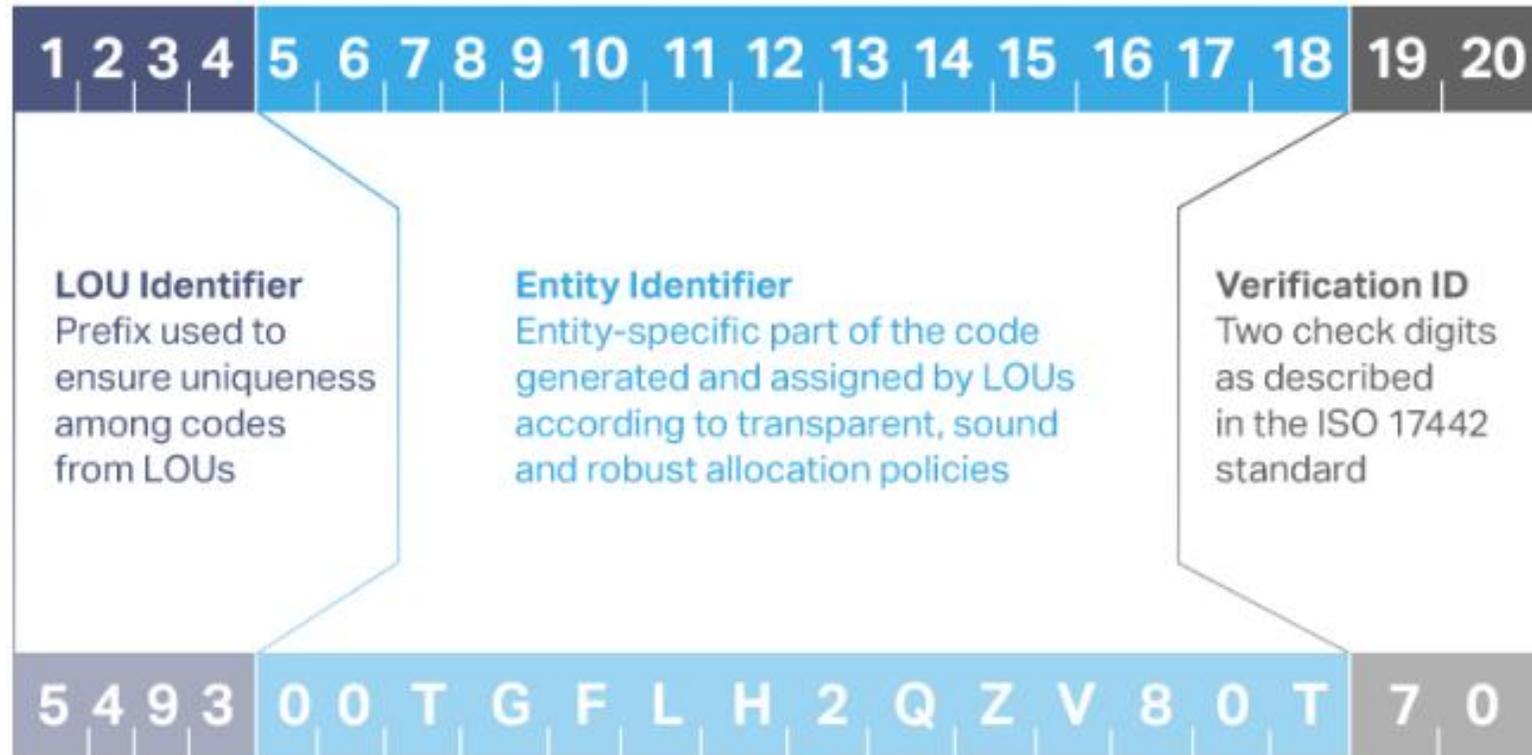
Frankfurt,



# LEGAL ENTITY IDENTIFIERS

- Globally unique identifiers for legal entities (e.g. companies)
- Managed by Global Legal Entity Identifier Foundation (GLEIF)
- Issued by accredited Local Operating Units (LOU)

# LEI FORMAT



**Example:** ABB Sécheron S.A., Switzerland

# LEI + XBRL

- LIXWG formed as a joint GLEIF/XBRL International Working Group
- Goal: standardise use of LEIs in XBRL
  - Standardise entity scheme for LEIs
  - Provide standard concept(s) and datatypes for LEIs
  - Validate LEI format
  - Create best practice guidance for use of LEIs



# LEI TAXONOMY

## Provides:

- Standard concept for LEI (lei:LegalEntityIdentifier)
- Item type that can be used to define other concepts (e.g. reference 3<sup>rd</sup> parties)
- Formula rules to validate checksum on above
- Formula rules to validate format & checksum where LEI is used as entity identifier

## Does not provide:

- Look up of LEIs



# LEI TAXONOMY

Coming soon:

- Data type for use of LEIs on typed dimensions (with formula rules)
- Optional entry point requiring use of LEI in XBRL entity identifier
- Usage guidance



# LEI TAXONOMY: STATUS

- Published as Public Working Draft
- Comments and feedback welcomed
- Available on Taxonomy Registry (<https://taxonomies.xbrl.org/>)

mit Unterstützung von  
with the support of

 **Bundesanzeiger  
Verlag**

**EBA**  
EUROPEAN  
BANKING  
AUTHORITY

 **eiopa**

 **eurofiling**

**XBRL | EUROPE**

hosted by   
**EUROPEAN CENTRAL BANK**  
EUROSYSTEM

**EUROFILING XBRL WEEK IN FRANKFURT 6-7-8-9 JUNE 2017**

**19<sup>th</sup> XBRL Europe day | Eurofiling 23<sup>rd</sup> workshop | Tutorials | Academic Track**

**XBRL-CSV**

**PAUL WARREN  
XBRL INTERNATIONAL**

Frankfurt,



# xBRL-CSV

xBRL-CSV provides a **flexible, standardised** approach for XBRL data, built upon the **Open Information Model (OIM)** and the W3C's **Tabular Metadata** specification



# WHY CSV?

Everything supports CSV

Very efficient for large data sets (lots of repeating records)

xBRL-CSV is aimed at *bulk data collection*



# CSV: ONE SIZE DOES NOT FIT ALL

Concepts as rows, periods as columns?

Aspects on columns, one fact per row?

Dimension(s) on rows, concepts on columns?



# xBRL-CSV

JSON metadata file groups a set of CSV files, and describes mapping to XBRL

Metadata file uses & extends the W3C Tabular Metadata standard

# xBRL-CSV: BUILDING A FACT

Fact = Value + Aspects

## Aspects:

- Concept
- Period
- Unit
- Entity
- Dimensions

## Aspects can be defined on:

- Columns (e.g. column of values for “Profit” concept)
- Report (e.g. all facts have the same entity)
- Table (e.g. facts for a particular dimension value)
- Another cell in the same row

Aspects inherit and can be overridden (e.g. a default unit for all facts)

# xBRL-CSV: LOAN DATA EXAMPLE

| Company<br>Typed Dimension | Size      | Country | Limit    | Percent Collateralised | interest | Start Date | Maturity Date |
|----------------------------|-----------|---------|----------|------------------------|----------|------------|---------------|
| F50EOCWSQFAUVO9Q8Z97       | Id:Small  | UK      | 10000000 | 0.7                    | 0.04     | 2001-06-01 | 2020-12-31    |
| AX278AEV345CAME93E45       | Id:Medium | US      | 20000000 | 0.5                    | 0.02     | 2010-03-01 | 2019-12-31    |
| QWEE5SFSYV452DRG3483       | Id:Micro  | PL      | 30000000 | 0.3                    | 0.03     | 2016-09-01 | 2017-10-31    |

Dimension values

Concepts

Facts

## Standing data:

Report period start/end

Entity identifier

# WARNING

You're about to see lots of curly brackets

- xBRL-CSV allows JSON metadata to be setup once, and re-used for multiple reports: end users only need to work with CSV.
- {Curly brackets} are easier than <angle brackets>

# JSON METADATA: OVERVIEW

```
{  
  "http://xbrl.org/YYYY/model#metadata": {  
    "documentType": "http://xbrl.org/YYYY/xbrl-csv",  
    "dtsReferences": [ ... ],  
    "prefixes": { ... }  
  },  
  "http://xbrl.org/YYYY/model#properties": { ... },  
  "tables": [ ... ]  
}
```

# JSON METADATA

```
{  
  "http://xbrl.org/YYYY/model#properties": {  
    "xbrl:entity": "scheme:01",  
    "accuracy": 2,  
    "xbrl:unit": "iso4217:USD",  
    "xbrl:periodStart": "2017-05-01T00:00:00",  
    "xbrl:periodEnd": "2017-05-01T00:00:00"  
  }  
  ...  
}
```

Report-level properties provides standing data and defaults

# JSON METADATA: PREFIXES

```
"prefixes": {  
  "ld": "http://xbrl.org/oim/conformance/firm-loans",  
  "iso4217": "http://www.xbrl.org/2003/iso4217",  
  "scheme": "http://xbrl.org/entity/identification/scheme",  
  "xbrl": "http://www.xbrl.org/WGWD/YYYY-MM-DD/oim",  
  "xbrli": "http://www.xbrl.org/2003/instance"  
}
```

Prefixes in xBRL-CSV use Simplified QNames (SQNames):

- Prefix:Namespace is 1:1 within a document
- Local parts can be any token (so can be used for entity identifiers)

# JSON METADATA: TABLES

```
"tables": [  
  {  
    "url": "loan-data-facts.csv",  
    "tableSchema": {  
      "columns": [  
        {  
          "name": "firm",  
          "datatype": "token",  
          "http://xbrl.org/YYYY/model#columnType": "propertyValue",  
          "http://xbrl.org/YYYY/model#columnProperty": "ld:Firm"  
        },  
        ...  
      ]  
    }  
  ]  
]
```

# JSON METADATA: COLUMNS

```
{  
  "name": "interest",  
  "datatype": "decimal",  
  "http://xbrl.org/YYYY/model#columnType": "numericSimpleFact",  
  "http://xbrl.org/YYYY/model#properties": {  
    "xbrl:concept": "ld:InterestRateChargedAtInception",  
    "xbrl:unit": "xbrli:pure",  
    "accuracy": 4  
  }  
}
```

Properties for all facts in this column are numeric simple fact

# COLUMN TYPES

Property value column

Simple fact

Simple fact

Numeric simple fact

Numeric simple fact

Numeric simple fact

Simple fact

Simple fact

| Company              | Size      | Country | Limit    | Percent Collateralised | interest | Start Date | Maturity Date |
|----------------------|-----------|---------|----------|------------------------|----------|------------|---------------|
| F50EOCWSQFAUVO9Q8Z97 | Id:Small  | UK      | 10000000 | 0.7                    | 0.04     | 2001-06-01 | 2020-12-31    |
| AX378AEV345CAME93E45 | Id:Medium | US      | 20000000 | 0.5                    | 0.02     | 2010-03-01 | 2019-12-31    |
| QWEE5SFSYV452DRG3483 | Id:Micro  | PL      | 30000000 | 0.3                    | 0.03     | 2016-09-01 | 2017-10-31    |

# PROPERTY VALUE COLUMNS

| Company              | Size      | Country | Limit    | Percent Collateralised | interest | Start Date | Maturity Date |
|----------------------|-----------|---------|----------|------------------------|----------|------------|---------------|
| F50EOCWSQFAUVO9Q8Z97 | Id:Small  | UK      | 10000000 | 0.7                    | 0.04     | 2001-06-01 | 2020-12-31    |
| AXDIME               | Id:Medium | US      | 20000000 | 0.5                    | 0.02     | 2010-03-01 | 2019-12-31    |
| QWEE5SFSYV452DRG3483 | Id:Micro  | PL      | 30000000 | 0.3                    | 0.03     | 2016-09-01 | 2017-10-31    |

Dimension values

Facts

Values in first column provide a **dimension value** to facts created by other cells in the same row

# PROPERTY VALUE COLUMNS

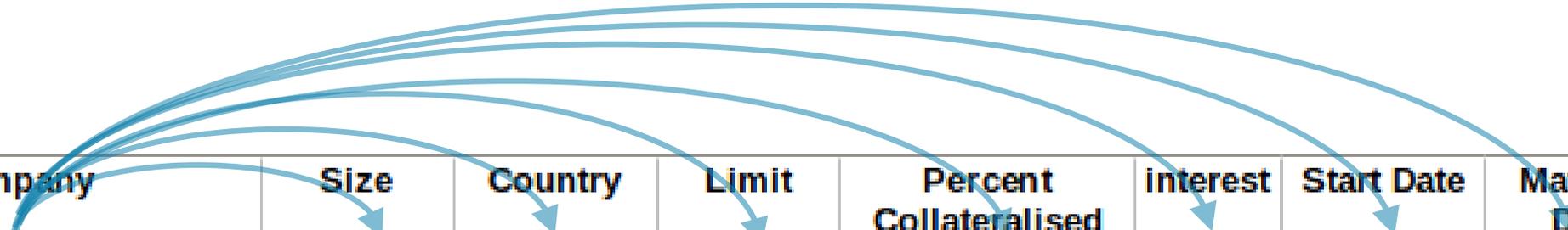
```
{  
  "name": "firm",  
  "datatype": "token",  
  "http://xbrl.org/YYYY/model#columnType": "propertyValue",  
  "http://xbrl.org/YYYY/model#columnProperty": "ld:Firm"  
},
```

Type of column

Name of typed dimension

By default, property value is applied to all fact-producing cells in the same row, but it is possible to target it to specific columns.

# PROPERTY VALUE COLUMNS



| Company              | Size      | Country | Limit    | Percent Collateralised | interest | Start Date | Maturity Date |
|----------------------|-----------|---------|----------|------------------------|----------|------------|---------------|
| F50EOCWSQFAUVO9Q8Z97 | Id:Small  | UK      | 10000000 | 0.7                    | 0.04     | 2001-06-01 | 2020-12-31    |
| AX378AEV345CAME93E45 | Id:Medium | US      | 20000000 | 0.5                    | 0.02     | 2010-03-01 | 2019-12-31    |
| QWEE5SFSYV452DRG3483 | Id:Micro  | PL      | 30000000 | 0.3                    | 0.03     | 2016-09-01 | 2017-10-31    |

By default, property value is applied to all fact-producing cells in the same row, but it is possible to target it to specific columns.

# LOAN-DATA-FACTS.CSV

```
firm,size,country inc,limit,pct collateralized,interest,start,maturity
F50E0CWSQFAUV09Q8Z97,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
```

- Compact representation
- First row is ignored

# WORKING WITH CSV DATA

xBRL-CSV is built upon the OIM

Lossless, standardised transformation to:

- **xBRL-XML** (aka the XBRL v2.1 XML syntax)
- **xBRL-JSON**

# xBRL-JSON: OVERVIEW

```
{  
  "documentType": "http://www.xbrl.org/WGWD/YYYY-MM-DD/xbrl-json",  
  "prefixes": { ... },  
  "dtsReferences": [ ... ],  
  "facts": [ ... ]  
}
```

# xBRL-JSON: FACTS

```
{
  "value": "firm-loans:Small",
  "aspects": {
    "xbrl:concept": "firm-loans:CompanySize",
    "xbrl:entity": "scheme:01",
    "xbrl:periodStart": "2017-05-01T00:00:00",
    "xbrl:periodEnd": "2017-05-01T00:00:00",
    "firm-loans:Firm": "F50E0CWSQFAUV09Q8Z97"
  }
},
{
  "value": "UK",
  "aspects": {
    "xbrl:concept": "firm-loans:CountryOfIncorporation",
    "xbrl:entity": "scheme:01",
    "xbrl:periodStart": "2017-05-01T00:00:00",
    "xbrl:periodEnd": "2017-05-01T00:00:00",
    "firm-loans:Firm": "F50E0CWSQFAUV09Q8Z97"
  }
}
```



# SUMMARY

- xBRL-CSV provides a flexible, standardised format for representing XBRL data in CSV
- Ideal for large quantities of repeating (record-based) data
- Structure of CSV files defined in JSON metadata, re-using W3C standards
- OIM ensures XBRL semantics are maintained
- Currently at Public Working Draft status: comments and participating welcomed!

mit Unterstützung von  
with the support of

 **Bundesanzeiger  
Verlag**

**EBA**  
EUROPEAN  
BANKING  
AUTHORITY

 **eiopa**

 **eurofiling**

**XBRL | EUROPE**

hosted by



**EUROPEAN CENTRAL BANK**  
EUROSYSTEM

**EUROFILING XBRL WEEK IN FRANKFURT 6-7-8-9 JUNE 2017**

**19<sup>th</sup> XBRL Europe day | Eurofiling 23<sup>rd</sup> workshop | Tutorials | Academic Track**

**INLINE XBRL**

**PAUL WARREN  
XBRL  
INTERNATIONAL**

Frankfurt,

mit Unterstützung von  
with the support of

 **Bundesanzeiger  
Verlag**

**EBA**  
EUROPEAN  
BANKING  
AUTHORITY

 **eiopa**

 **eurofiling**

**XBRL | EUROPE**

hosted by   
**EUROPEAN CENTRAL BANK**  
EUROSYSTEM

**EUROFILING XBRL WEEK IN FRANKFURT 6-7-8-9 JUNE 2017**

19<sup>th</sup> XBRL Europe day | Eurofiling 23<sup>rd</sup> workshop | Tutorials | Academic Track

**ASSERTION SETS**

**DAVID BELL  
UBPARTNER & XSB**

Frankfurt,



# ASSERTION SETS

Have been unloved and neglected within formula

Allow assertions to be grouped together, in theory for evaluation purposes

Although some processors do support assertion set evaluation, there is no defined processing model

Thus use of assertion sets requires non-standard product-specific mechanisms

# THIS AUTUMN – ASSERTION SETS 2.0

**XBRL FORMULA WORKING GROUP PRESENTS**

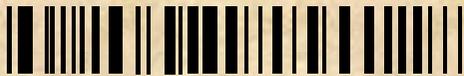
## **ASSERTION SETS 2.0 – RELOADED**

**SCREEN**

**3**

**ADULT**

| <b>PRICE</b> | <b>DATE</b> | <b>TIME</b> | <b>RATING</b>     |
|--------------|-------------|-------------|-------------------|
| €0.00        | 2017-08-06  | 08:00       | Parental Guidance |





# WHY ?

Taxonomies have more and more assertions

There is a more than ever a need to group them into sets

- Improve maintenance and deployment
- Group related functions together
- Evaluate related functions together
- Define ordering of assertion evaluation
- Allow for conditional evaluation of groups of assertions
- Provide the ability for taxonomy extenders to wire up assertion processing flows

# USE CASES

Evaluation of assertions linked to parts of a report

- Triggered by parameters – such as presence of filing indicators

Evaluation based on outcome of previous assertion sets

- Alternate data-driven paths based on presence / absence of data

Ability for partial evaluation / re-evaluation

- Validate or revalidate part of a submission

Ability to organise validation processing

- Basic checks first
- Abort processing if pre-requisite validations fail

# ASSERTION SETS 2.0 – AN EVOLUTION

Build on current assertion set structure

- Link an assertion set to multiple assertions

Extend processing behaviour of assertion sets

- Allow pre-conditions that apply to all assertions within an assertion set
- Allow success and failure messages for the assertion set as a whole, based on the assertion processing

Maintain current assertion processing model

- Assertions behave the same whether they are in an assertion set or not



# GROUPING

By area of application – such as ELR or table

By level of validation

- Mandatory checks
- Data integrity checks
- Cross ELR and table checks
- Complex rules and derived values

Allows tools to group and present assertion results according to assertion sets



# WORKFLOW

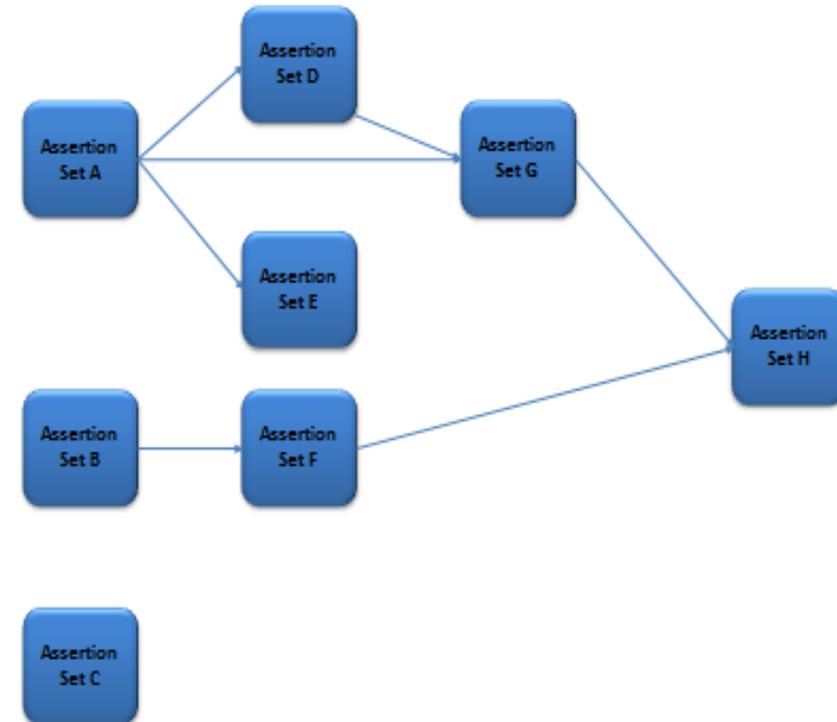
Why perform costly validation on data that is known to be incorrect ?

- Uses more resources
- May report more false errors than real errors
- Currently impossible for taxonomy authors to specify

Assertion Sets 2.0 defines a mechanism for both dependencies and for conditional evaluation

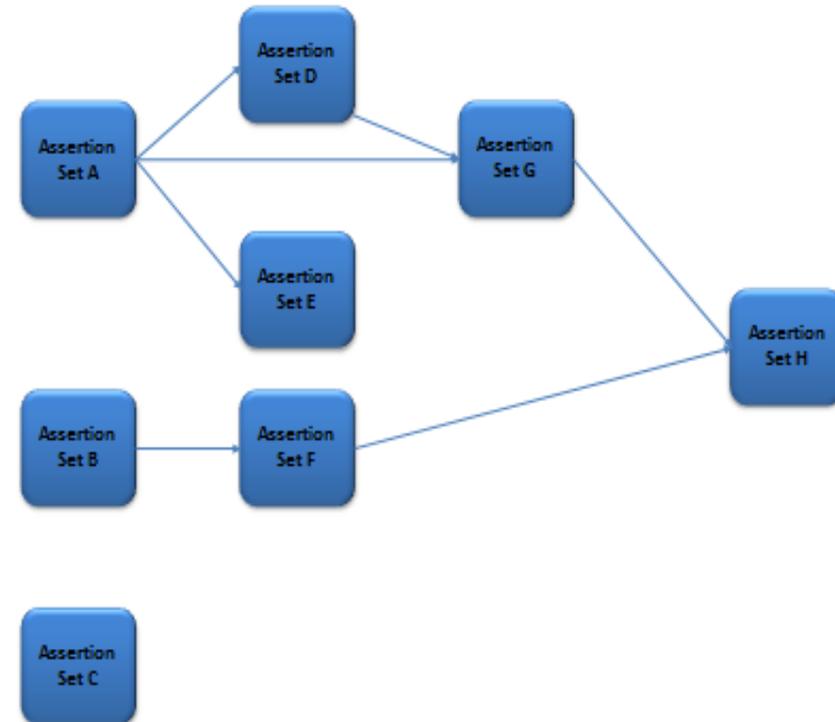
# DEPENDENCIES

- Allows dependency graphs of assertion sets
- Static or dynamic evaluation of the graph



# CONDITIONS

- Provide support for alternative flows
- Define assertion set preconditions that affect all assertions in the set
- Allow / prevent assertion set evaluation based on the result of previous assertion sets



# SPECIFYING DEPENDENCIES

Dependency definitions can be (should be !) defined independently of assertion sets

Dependency definitions should be linked to the entry point

- Just like other linkbases
- Allows maximum flexibility to “wire-up” processing
- Extensions can re-use and add assertion sets with their own specific “rewiring”



# PROCESSING MODEL

Specification provides a defined processing model when assertion sets are present

- Backwards compatible with current assertion model
- Can revert to current model without inconsistency
- Does not require assertions to be members of an assertion set



# STATUS

PWD is out for review

Feedback welcome

mit Unterstützung von  
with the support of

 **Bundesanzeiger  
Verlag**

**EBA**  
EUROPEAN  
BANKING  
AUTHORITY

 **eiopa**

 **eurofiling**

**XBRL | EUROPE**

hosted by



**EUROPEAN CENTRAL BANK**  
EUROSYSTEM

**EUROFILING XBRL WEEK IN FRANKFURT 6-7-8-9 JUNE 2017**

19<sup>th</sup> XBRL Europe day | Eurofiling 23<sup>rd</sup> workshop | Tutorials | Academic Track

**FORMULA LANGUAGE  
INITIATIVE**

DAVID BELL  
UBPARTNER & XSB

Frankfurt,

# WHY WE LOVE FORMULA 😊

```
<df:explicitDimension id="boi_v20914_c_f.f14" xlink:label="boi_v20914_c_f.f14" xlink:type="resource">
  <df:dimension>
    <df:qname>boi_dim:CLG</df:qname>
  </df:dimension>
  <df:member>
    <df:qname>boi_CL:x0</df:qname>
  </df:member>
</df:explicitDimension>
  <variable:variableSetFilterArc complement="false"
xlink:arcrole="http://xbrl.org/arcrole/2008/variable-set-filter" xlink:from="boi_v20914_c_f" order="3"
xlink:to="boi_v20914_c_f.f3" xlink:type="arc"/>
  <variable:variableSetFilterArc complement="false"
xlink:arcrole="http://xbrl.org/arcrole/2008/variable-set-filter" xlink:from="boi_v20914_c_f" order="2"
xlink:to="boi_v20914_c_f.f2" xlink:type="arc"/>
  <variable:variableSetFilterArc complement="false"
xlink:arcrole="http://xbrl.org/arcrole/2008/variable-set-filter" xlink:from="boi_v20914_c_f" order="1"
xlink:to="boi_v20914_c_f.f1" xlink:type="arc"/>
  <variable:variableSetFilterArc complement="false"
xlink:arcrole="http://xbrl.org/arcrole/2008/variable-set-filter" xlink:from="boi_v20914_c_f" order="10"
xlink:to="boi_v20914_c_f.f10" xlink:type="arc"/>
  <variable:variableSetFilterArc complement="false"
xlink:arcrole="http://xbrl.org/arcrole/2008/variable-set-filter" xlink:from="boi_v20914_c_f" order="7"
xlink:to="boi_v20914_c_f.f7" xlink:type="arc"/>
  <variable:variableSetFilterArc complement="false"
xlink:arcrole="http://xbrl.org/arcrole/2008/variable-set-filter" xlink:from="boi_v20914_c_f" order="12"
xlink:to="boi_v20914_c_f.f12" xlink:type="arc"/>
  <variable:variableSetFilterArc complement="false"
xlink:arcrole="http://xbrl.org/arcrole/2008/variable-set-filter" xlink:from="boi_v20914_c_f" order="6"
xlink:to="boi_v20914_c_f.f6" xlink:type="arc"/>
```

# WHY WE LOVE FORMULA ☹️

Because it's so

- Concise ?
- Readable ?
- Obvious ?
- Maintainable ?
- Productive ?
- Easy to learn ?



# WHY WE LOVE FORMULA

But actually the main difficulty is the syntax

The formula themselves are little more than logical and mathematical expressions applied to filtered data sets.

Often the hard bit isn't even working out the expressions or the filters.

The hard bit is actually getting it into the unforgiving XBRL Formula syntax in a reliable manner to get some answers.

# FORMULA LANGUAGE INITIATIVE

Initiated from some ideas this time last year at this meeting.

- Taxonomies with large rule sets – such as SEC DQC rules
- Taxonomies with rules that are difficult to generate – like tax taxonomies
- Reliance on experts to create and maintain rules
- Reluctance to use formula because of high-cost barriers to entry

# GOALS

Similar in principle to Inline XBRL versus XBRL

- Does not provide new features, but a different mechanism to express and use them
- Make formula (almost!) suitable for ‘human consumption’
- Must map directly to current XML representation
- Must cover the complete set of XBRL formula constructs
- Can be implemented as a pre-processor
- Improve modularity and scope for re-use
- Support round-tripping (though up for discussion)

# IDEAS - MOVEMENT

```
assertion PropertyPlantEquipmentGrossCost {
  variable ending-balance {
    concept-name PropertyPlantEquipmentGrossCost
    instant-duration end $changes
  }
  variable changes {
    bind-as-sequence
    concept-name in (IncreaseDecreaseInPropertyPlantEquipment)
  }
  variable starting-balances {
    bind-as-sequence
    instant-duration start $changes
    concept-name in (PropertyPlantEquipmentGrossCost)
  }
  test {
    $ending-balance eq sum($starting-balances) + sum($changes)
  }
}
```

# IDEAS – DIMENSIONAL AGGREGATION

```
assertion OtherRelatedPartyTypeDimension {  
  variable aggregation {  
    dimension AllOtherRelatedParties default  
  }  
  variable aggregands {  
    bind-as-sequence  
    member $aggregation axis child  
  }  
  test {  
    $aggregation eq sum($aggregands)  
  }  
}
```

# IDEAS – SUMMATION

```
assertion TotalIncreaseDecreaseFromRevaluationsPropertyPlantEquipment {  
    variable sum {  
        concept-name TotalIncreaseDecreaseFromRevaluationsPropertyPlantEquipment  
    }  
    variable addends {  
        bind-as-sequence  
        concept-name in  
            (IncreaseDecreaseFromRevaluationsRecognisedOrReversedInOtherComprehensiveIncomePropertyPlantEquipment,  
             IncreaseDecreaseFromRevaluationsRecognisedOrReversedInProfitOrLossPropertyPlantEquipment)  
    }  
    test {  
        $sum eq sum($addends)  
    }  
}
```

# IDEAS – MODULES

```
import "https://xbrl.frc.org.uk/FRS-102/2014-09-01/FRS-102-2014-09-01.xsd"

undefined-severity ERROR

assertion-set PropertyPlantEquipmentAssertions {
    en"Property plant and equipment assertion set evaluation completed with errors."

    assertion PropertyPlantEquipmentGrossCost { ... }
    assertion TotalIncreaseDecreaseFromRevaluationsPropertyPlantEquipment { ... }
}
```

# IDEAS – TEMPLATES

```
abstract assertion dimensionalAggregation {
  unsatisfied-message en"Sum not OK for {qname($aggregation)}, context {context($aggregation)},
    value {$aggregation} != [{$aggregands}]"
  abstract variable aggregation
  variable aggregands {
    bind-as-sequence
    member $aggregation axis child "(0)"
  }
  test {
    $aggregation eq sum($aggregands)
  }
}

assertion ContinuingDiscontinuedOperationsDimension extends dimensionalAggregation {
  unsatisfied-message en"Sum not OK for Continuing Operations, context {context($aggregation)},
    value {$aggregation} != [{$aggregands}]"
  variable aggregation {
    dimension ContinuingDiscontinuedOperationsTotal default 0
  }
}
```



# WORK TO DO

Syntax and structure still needs work

- Abstractions
- Assertion set 2.0 support
- Language constructs
- Modules, imports and references

Conformance suite and test cases



# RELATED TOPICS

How to annotate taxonomies to generate formula

- Calculation linkbase “V2” discussions
- Hierarchies with new and mixed role types ?
- Table linkbase annotations – specify totalling of rows and columns ?

Workflow and chaining

- Generation of intermediate results
- Conditional processing

Expanded taxonomy navigation functions

mit Unterstützung von  
with the support of

 **Bundesanzeiger  
Verlag**

**EBA**  
EUROPEAN  
BANKING  
AUTHORITY

 **eiopa**

 **eurofiling**

**XBRL | EUROPE**

hosted by   
**EUROPEAN CENTRAL BANK**  
EUROSYSTEM

# EUROFILING XBRL WEEK IN FRANKFURT 6-7-8-9 JUNE 2017

19<sup>th</sup> XBRL Europe day | Eurofiling 23<sup>rd</sup> workshop | Tutorials | Academic Track

Q + A

PAUL WARREN  
DAVID BELL

Frankfurt,


# Q + A

There is also another general session this afternoon

From 15h30 onwards

Room C2.03