Secrétariat général de l'Autorité de contrôle prudentiel
Direction des Ressources Humaines, Méthodes et Système d'Information
Service Reporting et Grands Projets

Taxonomies EIOPA
État au 2 octobre 2012

Certaines planches ont été tirées de présentation de l'EIOPA

RESTREINT

XBRL France
Groupe Assurances
2012-10-02

Reporting Tool for Undertakings

Objective: To provide undertakings with a tool to easily create complete and valid XBRL instances from Solvency II harmonized quantitative reporting templates.

Timetable / Milestones

Risks / Late deliverables / Challenges

- Open questions (see discussions in Business SG)
- Short time frame
- Procurement procedure
- Unclear cost

→ High risk: Solutions that the market can offer are not well known. Probably not many providers will send offers. Implementation will be difficult.

Progress

Achieved:

- Project setup
- Project meetings on 29/3 and 24/4
- Questionnaire and draft business requirements to ITDC
- Evaluation of answers and update of requirements document
- Stakeholder review by IRSG

Ongoing:

- Preparation of call for tenders (merged with general IT services framework contract)

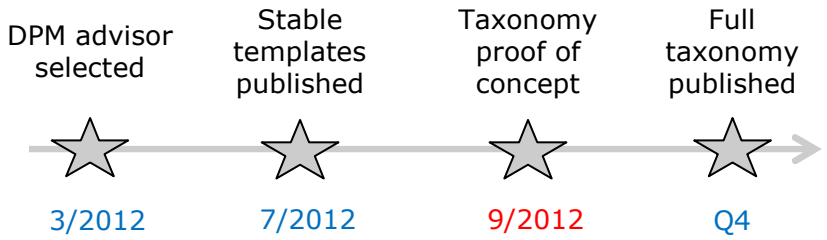
To come:

- Procurement procedure

XBRL taxonomy development

Objective: To develop a stable XBRL taxonomy based on the final reporting templates so that undertakings are able to submit valid data in a harmonised format to the National Supervisory Authorities.

Timetable / Milestones



Risks / Late deliverables / Challenges

- Dependencies on finalisation Solvency II templates (changes to deadline)
- Necessary feedback loops, especially regarding validation
- Need for a new technical consultation
- Co-ordination with EBA
- Short time frame
- Open issues for DPM

Progress

Achieved:

- Work carried out by the Taxonomy Taskforce (lead: Eric Jarry)
- Contract with BR-AG to support the Data Point Modelling process
- Stable templates published after June BoS
- 4 meetings between BR-AG and IGSRR SG3
  - Agreement to upgrade some templates
  - Agreement to analyse potential additional upgrades
- Call for tender launched for DPM and taxonomy quality review

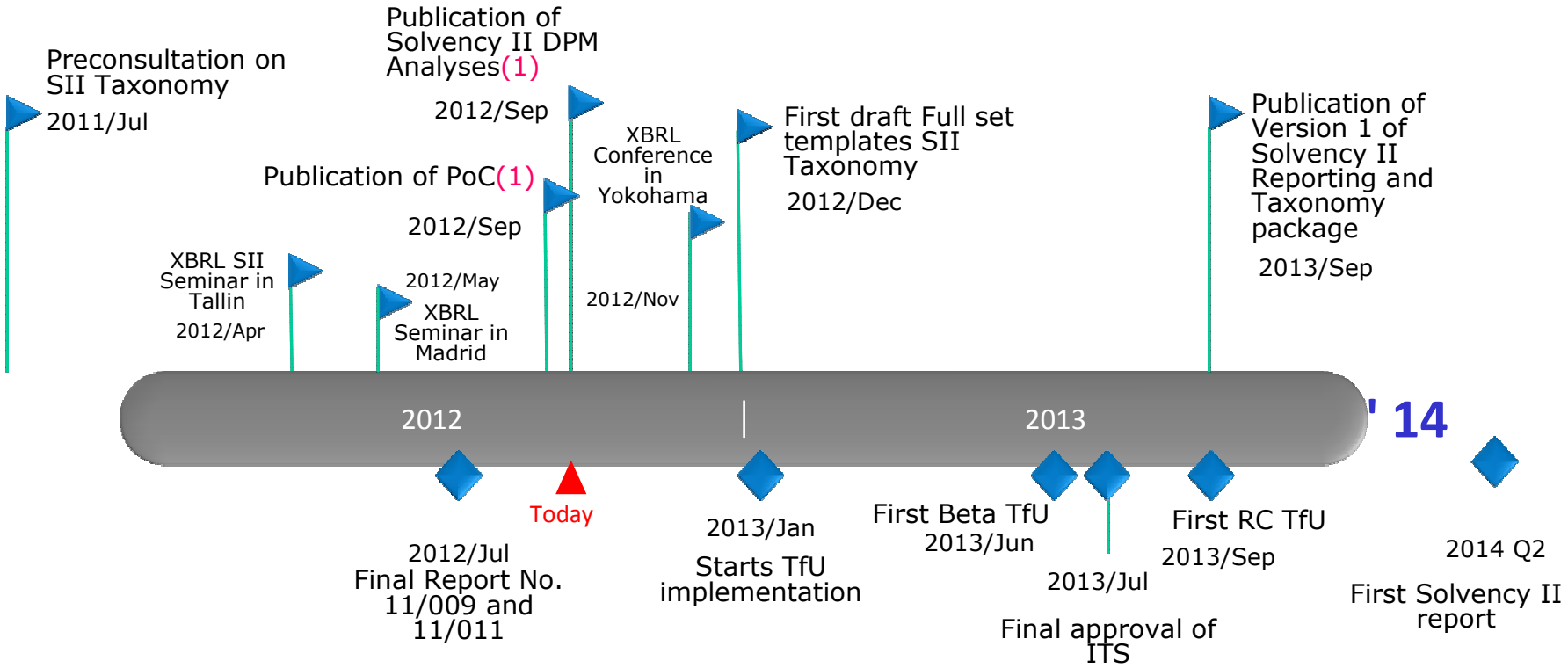
Ongoing:

- Collaboration between BR-AG and business experts
- Creation of taxonomy proof of concept (mid-September)

To come:

- Call for tender preparation for taxonomy development (next step after DPM)
- Publication of DPM outcome (September)
- Stable taxonomy (based on current templates) by Q4 2012

Taxonomy timeline

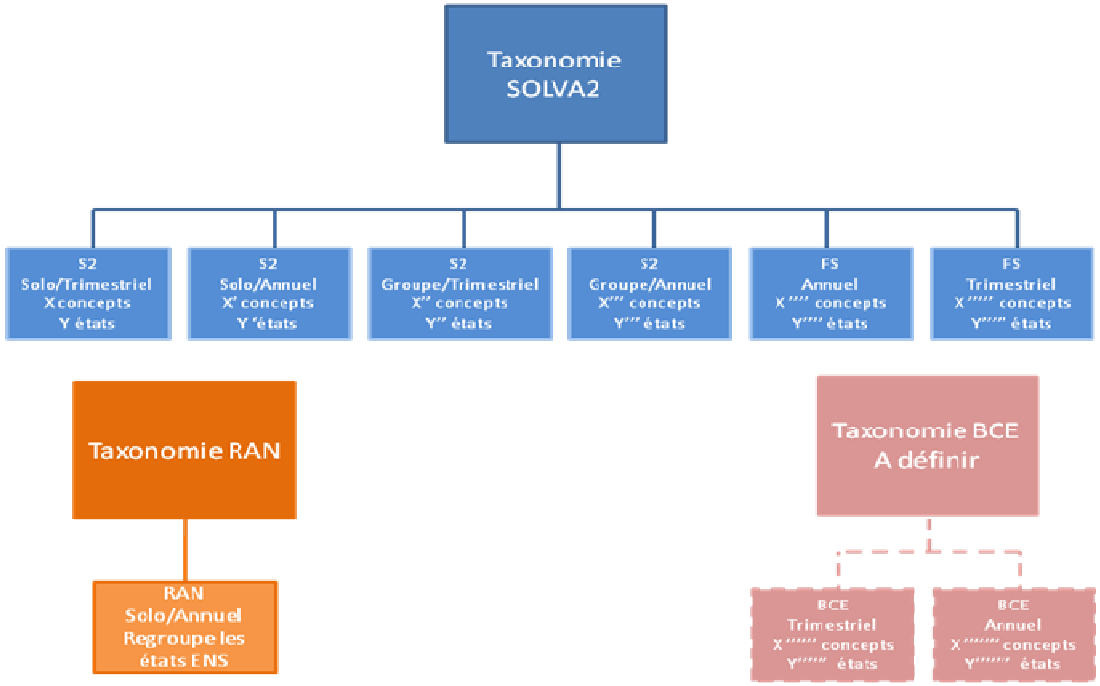


(1) : https://eiopa.europa.eu/publications/eu-wide-reporting-formats/index.html

Taxonomy delivery or event.

External income/dependency of the Taxonomy Project.

Taxonomies applicables en France



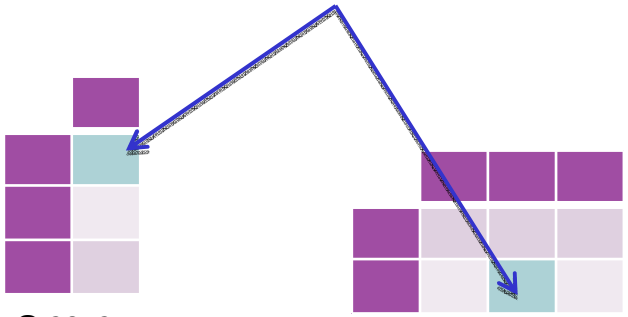
Data Point Modelling

- La modélisation des données permet de déterminer toutes les caractéristiques d'une information
- Le "Data Point Modelling" utilise les dimensions XBRL pour exprimer ces caractéristiques (incluant les "dimension cachées") d'une information remise (*data point*)
- Dans les taxonomies hautement dimensionnelles, chaque item primaire est « explosé » selon toutes ses dimensions (cachées ou non) et le concept logique n'apparait plus
- Les taxonomies EBA exposeront, a priori, toutes les caractéristiques, conduisant à des taxonomies hautement dimensionnelles

Example of a data point

Net carrying amount of not yet unimpaired but already past due (over 180 days) debt securities held, issued in EUR by MFIs located in EMU with original maturity under one year, measured at amortised cost and relating only to business activities conduced in Spain (local business).

Base term:	Assets
Category:	Debt securities
Portfolio:	Amortised cost
Amount type:	Carrying amount
Impairment status:	Unimpaired
Past due period:	≥ 180 days
Original currency:	EUR
Original maturity:	< 1 year
Counterparty sector:	MFIs
Counterparty residence:	EMU
Location of activity:	Spain



Base terms:
Assets
Liabilities
Equity
Off-balance sheet
Exposures

Categories:
Total (…)
Cash
Loans
Debt securities
Equity instruments
Tangible and intangible
Other than (…)

Amount types:
Carrying amount
Gross carrying amount
(Specific allowances)
(Collective allowances)

Original currencies:
All / Not-applicable
EUR
Other than EUR

Total (…)
Fair value through profit or loss
Amortised cost

All / Not-applicable
Impaired
Unimpaired

All
0 days
< 180 days
≥ 180 days

Original maturity:
All
< 1 year
≥ 1 year < 2 year
≥ 2 years

Counterparty sectors:
All / Not-applicable
MFIs
MMFs
MFIs other than MMFs
Central Administration
Other general government
Non-MFIs other than government

Counterparty residences:
All / Not-applicable
EMU (…)
Spain
Other than Spain in EMU (…)
Other than EMU (…)

Locations of activities:
All / Not-applicable
Spain
Other than Spain (…)

Origin: Business Reporting – Advisory Group © 2012

Exemple : Solvency II - Bilan

BS_C1

Balance sheet

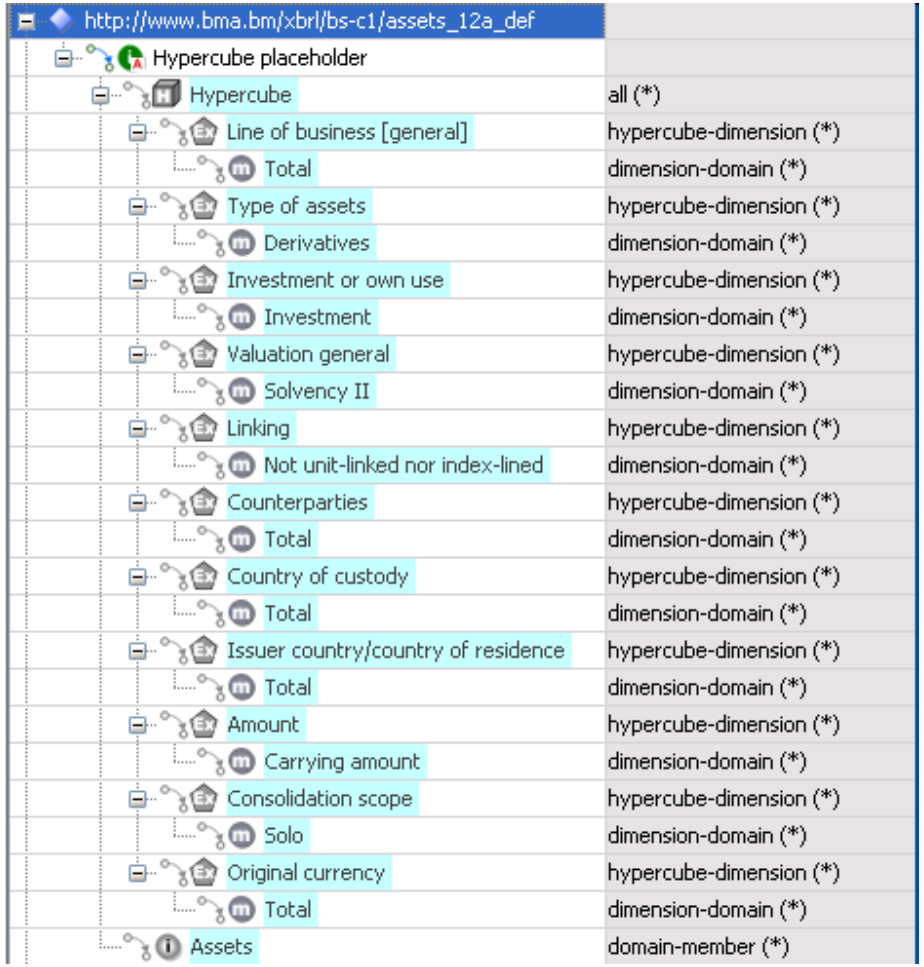
Annotated

Solo or group

Periodicity

	Solvency II value	Statutory accounts valuation basis
Assets		
Goodwill		AS1
Deferred acquisition costs and other intangible assets		AS24A
Deferred acquisition costs		AS24
Other intangible assets	A2	AS2
Deferred tax assets	A26	AS26
Property, plant & equipement held for own use	A3	AS3
Pension benefit surplus	A25B	AS25B
Investments (other than assets held for unit-linked funds)	A4=A5+A6+A7+A7A+A8+A8A+A8C+A8D+A9+A10A+A10B+A11+A14	AS4=AS5+AS6+AS7+AS7A+AS8+AS8A+AS8C+AS8D+AS9+AS10A+AS10B+AS11+AS14
Property (other than own use)	A5	AS5
Participations	A6	AS6
Equities		AS7B
Equities - listed	A7	AS7
Equities - unlisted	A7A	AS7A
Bonds		AS8E
Government Bonds	A8	AS8
Corporate Bonds	A8A	AS8A
Structured notes	A8C	AS8C
Collateralised securities	A8B	AS8D
Investment funds	A9	AS9
Derivatives	A10A	AS10A
Deposits other than cash equivalents	A10B	AS10B
Loans & mortgages (except loans on policies)	A14	AS14
Other investments	A11	AS11
Assets held for unit-linked & index-linked	A12	AS12
Loans on policies	A14A	AS14A

Data Point Modelling in highly dimensional taxonomies

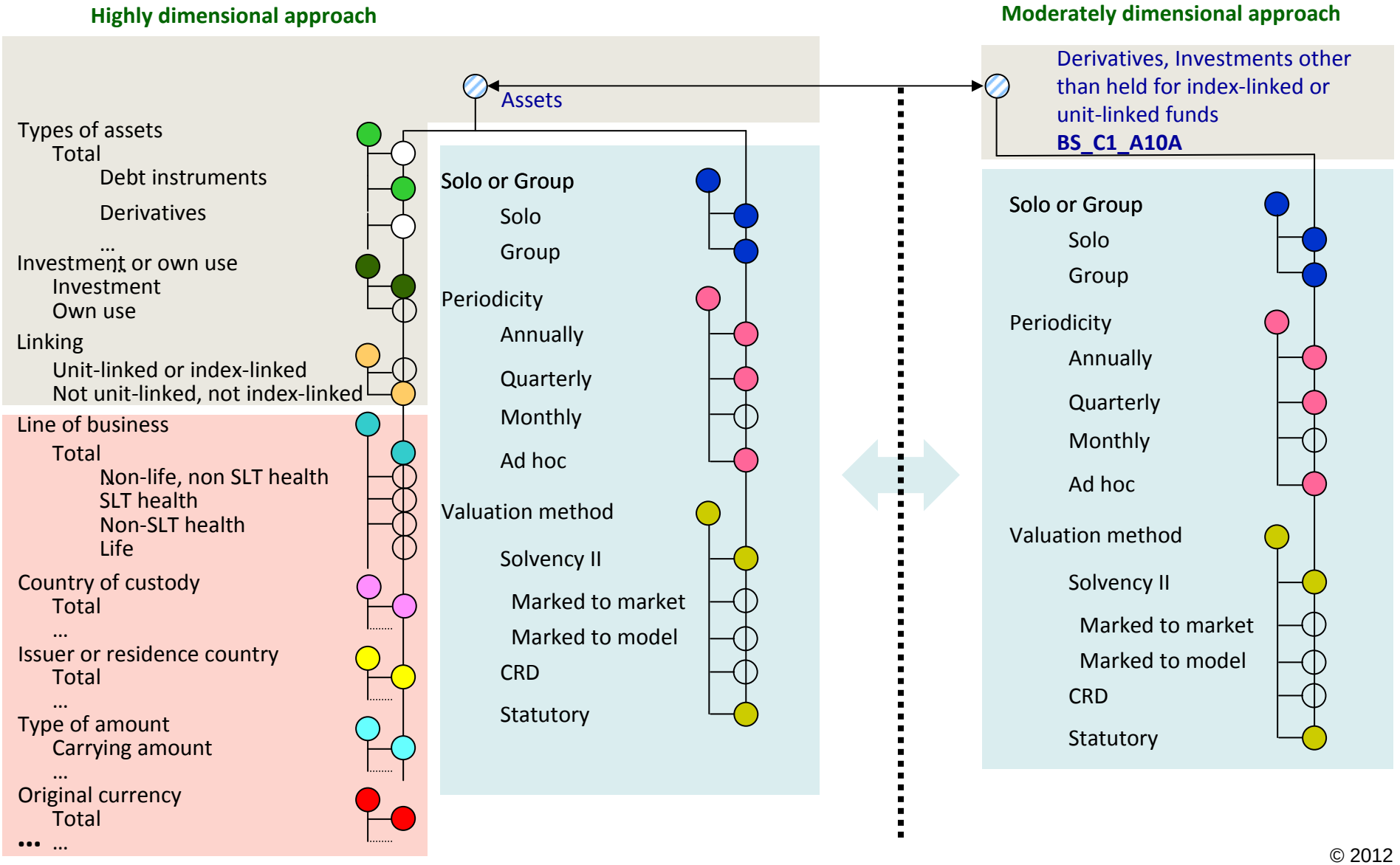


http://www.bma.bm/xbrl/bs-c1/assets_12a_def	
Hypercube placeholder	
Hypercube	all (*)
Line of business [general]	hypercube-dimension (*)
Total	dimension-domain (*)
Type of assets	hypercube-dimension (*)
Derivatives	dimension-domain (*)
Investment or own use	hypercube-dimension (*)
Investment	dimension-domain (*)
Valuation general	hypercube-dimension (*)
Solvency II	dimension-domain (*)
Linking	hypercube-dimension (*)
Not unit-linked nor index-lined	dimension-domain (*)
Counterparties	hypercube-dimension (*)
Total	dimension-domain (*)
Country of custody	hypercube-dimension (*)
Total	dimension-domain (*)
Issuer country/country of residence	hypercube-dimension (*)
Total	dimension-domain (*)
Amount	hypercube-dimension (*)
Carrying amount	dimension-domain (*)
Consolidation scope	hypercube-dimension (*)
Solo	dimension-domain (*)
Original currency	hypercube-dimension (*)
Total	dimension-domain (*)
Assets	domain-member (*)

- Le concept A10 n'existe plus
  - Pas de libellés
  - Pas de references
  - Pas de documentation
  - Plus de hiérarchie de présentation
- 11 dimensions
  - Expression des assertions très longues
  - Problèmes potentiels avec des mélanges de dimensions dans les assertions

Origin: BMA Solvency II taxonomy POC

Deux niveaux de taxonomies



Base de liens sémantique, pont vers le DPM

Solutions possible de conversion:

- formules XBRL
- Versionnement XBRL
- Comparaison de taxonomies
- Autres solutions…

Element	arcrole	order
Definition Link		
http://eiopa.europa.eu/role/semantic_equivalence		
Derivatives		
Asset	is_equivalent (*)	1
Derivatives (Hypercube)	all (*)	1
Line of business	hypercube-dimension (*)	1
Total	dimension-domain (*)	1
Type of asset	hypercube-dimension (*)	4
Derivative product	dimension-domain (*)	1
Investment or own use	hypercube-dimension (*)	5
Investment	dimension-domain (*)	1
Valuation general	hypercube-dimension (*)	6
Solvency II	dimension-domain (*)	1
Linking	hypercube-dimension (*)	7
Nor unit-linked, nor index-linked	dimension-domain (*)	1
Country of custody	hypercube-dimension (*)	8
Total	dimension-domain (*)	1
Issuer country ot country of residence	hypercube-dimension (*)	9
Total	dimension-domain (*)	1
Amount	hypercube-dimension (*)	10
Carrying amount	dimension-domain (*)	1
Original currency	hypercube-dimension (*)	11
Total	dimension-domain (*)	1
http://eiopa.europa.eu/role/BalanceSheet		
Derivatives		
Solo or group (Hypercube)	all (*)	1
Solo or group	hypercube-dimension (*)	1
Solo	dimension-domain (*)	1
Group	dimension-domain (*)	2
Periodicity	hypercube-dimension (*)	2
Annually	dimension-domain (*)	1
Quarterly	dimension-domain (*)	2
Ad hoc	dimension-domain (*)	3

EIOPA XBRL approach: two layers

Solvency II templates

Annotated templates (limited DPM)

Non-DPM Eurofiling XBRL architecture

Moderately dimensional taxonomy layer

Mapping layer

Data Point Model

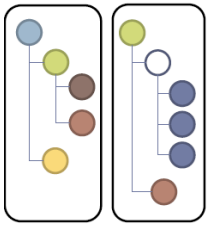
DPM-based annotated templates

DPM XBRL architecture

Highly dimensional taxonomy layer

DPM artefacts

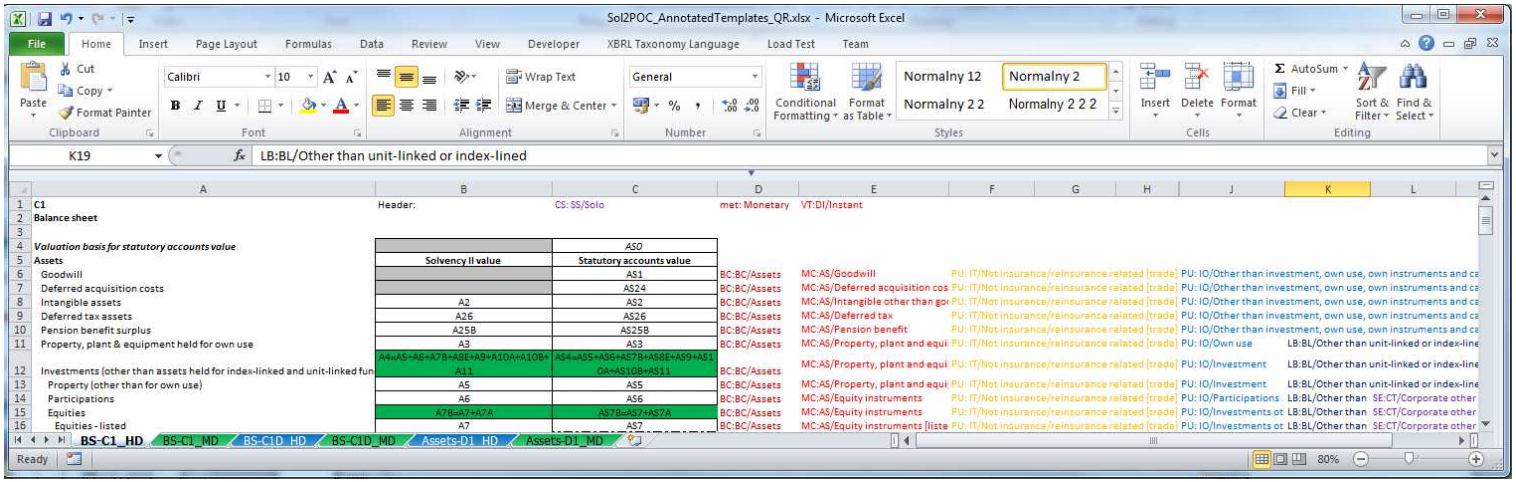
DPM dictionary of concepts and hierarchies (relation between concepts)



Sol2POC_DPM_QR.xlsx - Microsoft Excel

	F	G	H	I	J	K
1	Data type	Period type	Count	Associated domain	Value assertion constraint	Hierarchy
2	monetary	instant	1			2: BS-C1 - aggregations
3	monetary	instant	1			Excess of assets over liabilities, Liabilities and Basic Own Funds
4	monetary	instant	1			Total assets, Assets
5	monetary	instant	1			Goodwill, Assets
6	monetary	instant	1			Deferred acquisition costs, Assets
7	monetary	instant	1			Intangible assets, Assets
8	monetary	instant	1			Deferred tax assets, Assets
9	qname	instant	1	s2c_exp:LB	enumeration: s2c_LB:Y; sc2	Pension benefit surplus, Assets
10	qname	instant	1	s2c_exp:CG	enumeration: s2c_CG:CP; s	Property, plant and equipment held for own use, Assets
11	monetary	instant	2			Investments [other than assets held for index-linked and unit-linked funds], Assets
12	monetary	instant	1			Property [other than for own use], Investments [other than assets held for index-linked and unit-linked funds], Assets
13	monetary	instant	1			Participations, Investments [other than assets held for index-linked and unit-linked funds], Assets

DPM annotated template

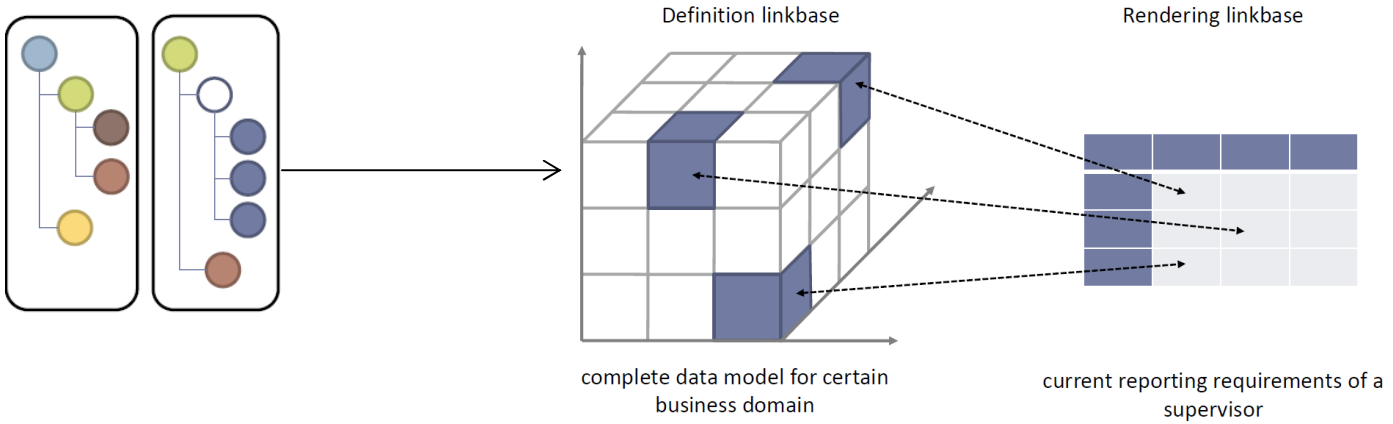


DPM artefacts

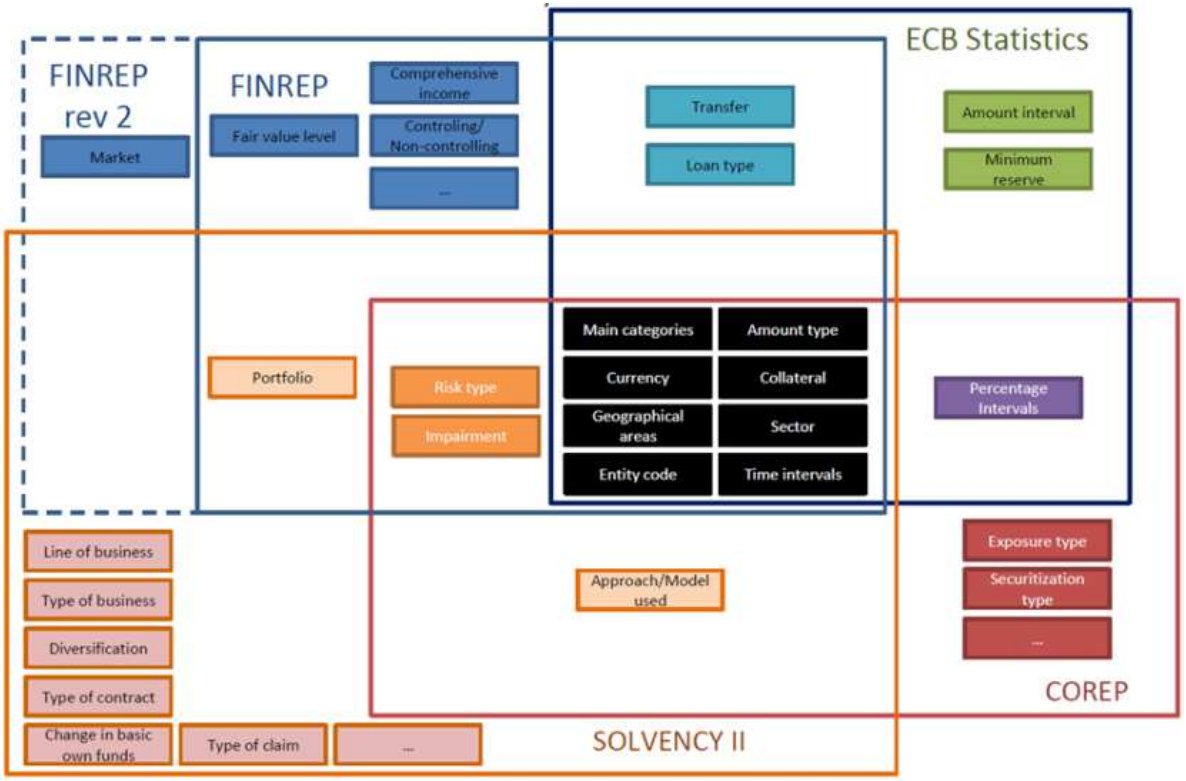
The DPM matrix (similar to an OLAP cube)

B	C	D	E	F	AT	CH	CW	DL	EG	EP	GA	GF	GK	GO	NP	XI	YT	ZL	ZM	ZN	ZO	ZP
				Main category	Amount	Type of business	Purpose of assets	Sectors	Collateral/Guarantee	Line of business	Subordination	Eligibility	Consolidation scope	Currency	Geographic area	Time intervals	Metodology used	Statutory accounting standards [typed domain]	ID code [typed domain]	ID code types [typed domain]	External rating [typed domain]	Rating agency [typed domain]
				MC	AM	TB	PU	SE	OG	LB	SU	EL	CS	CU	GA	TI	MU	ST	ID	IT	ER	RA
Table	Cell	Primary item	Name																			
BS-C1	A1	Assets	mi1	X	X	-	X	-	-	X	-	-	X	X	-	-	-	-	-	-	-	-
BS-C1	A24	Assets	mi1	X	X	-	X	-	-	X	-	-	X	X	-	-	-	-	-	-	-	-
BS-C1	A2	Assets	mi1	X	X	-	X	-	-	X	-	-	X	X	-	-	-	-	-	-	-	-
BS-C1	A26	Assets	mi1	X	X	-	X	-	-	X	-	-	X	X	-	-	-	-	-	-	-	-
BS-C1	A25B	Assets	mi1	X	X	-	X	-	-	X	-	-	X	X	-	-	-	-	-	-	-	-
BS-C1	A3	Assets	mi1	X	X	-	X	-	-	X	-	-	X	X	-	-	-	-	-	-	-	-
BS-C1	A4	Assets	mi1	X	X	X	X	X	X	X	X	-	X	X	X	-	-	-	-	-	-	-
BS-C1	A5	Assets	mi1	X	X	X	X	-	-	X	-	-	X	X	-	-	-	-	-	-	-	-
BS-C1	A6	Assets	mi1	X	X	X	X	X	-	X	-	-	X	X	X	-	-	-	-	-	-	-
BS-C1	A7	Assets	mi1	X	X	X	X	X	-	X	-	-	X	X	X	-	-	-	-	-	-	-

The ideal process of creation templates



Cross framework harmonization



To have as much consistency as possible with other reporting authorities, in particular with EBA which adopted “Data Modelling” for the next release of their XBRL taxonomies: COREP and FINREP.

A common architecture helps the software industry that works for firms across financial sector, without being specially focused on (re)-Insurance undertakings. Some undertakings are members of cross sector conglomerates..

Pro and cons for HD taxonomies

- Pros
  - Quality check for the model (via DPM)
  - Explicit dependencies between concepts
  - Change management with stable base items
  - Use of breakdowns for internal purposes (databases, BI…)
  - Potential bridge with other reporting frameworks
  - No need for arbitrary decisions (base vs dimensions)
  - Data centric model (template independent)
- Cons
  - Less readability of taxonomies for fillers
  - Bigger instances and lower performances (more breakdowns used)
  - More time and resources required for preparation
  - More complex formulas / assertions with need of dimension filters

MD and HD layers

- A single tool is used to generate both layers of the taxonomy
  - Less alignment effort
  - No need to ask two sets of annotated templates to business people

- Moderately Dimensional Taxonomy aimed at:
  - Reporting (smaller, more readable)
    - Generated by Tool for Undertakings
  - Validation (more readable, more performance)

- Highly Dimensional Taxonomy aimed at:

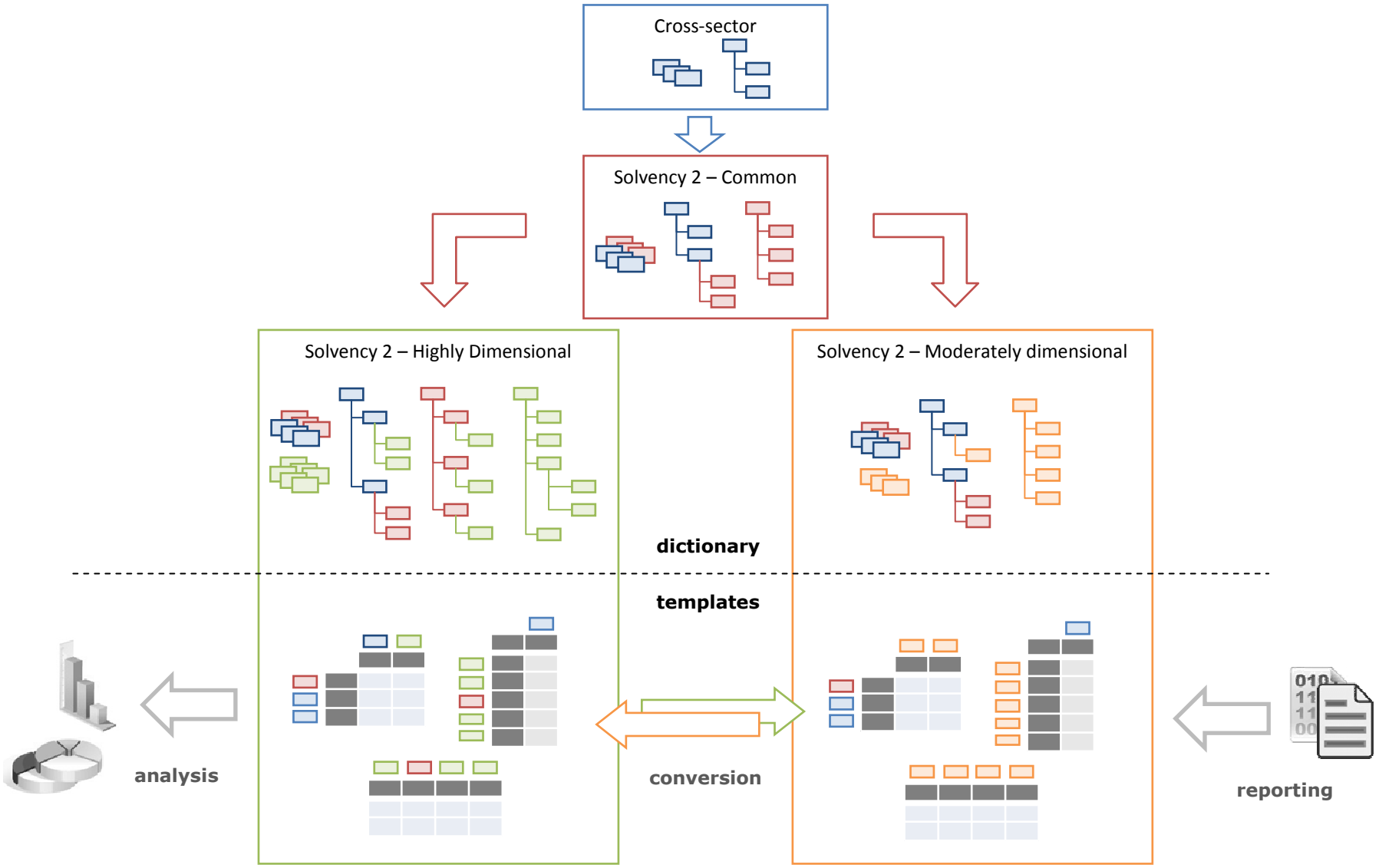
  - Analysis of instances in Business Intelligence tools
  - May be will be generated for undertakings (specially with OLAP data-ware houses)

- MD instances may be translated into HD using conversion layer (and vice-versa)
  - Give flexibility for the undertakings and the NSA because will be able to convert from one layer to another depending on his needs and preferences.

The Proof of Concept (POC)

- Is based on a representative subset of the reporting requirements
  - The Annual Balance Sheet Template (BS_C1)
  - The Annual Assets and Liabilities by Currency Template (BS_C1D)
  - The Quarterly Investments Data - Portfolio list (detailed list of investments) template (AS_D1)
- DPM description for the subset of the reporting requirements
- Description of the timelines and deliveries.
- Description of the taxonomy creation process
- Description of the architecture and XBRL related topics
  - Commonalities with EBA taxonomies (not yet published, even draft)
- Description of the normalization process and splitting of templates in tables
- First implementation of the taxonomy architecture
  - Two layers taxonomy (HD and MD)
  - Formula linkbase with some template and cross-template assertions implemented
  - Two rendering linkbase
  - Mapping layer for conversion from HD and MD using standard XBRL
- Test instance of a hypothetical small undertaking

POC XBRL Taxonomy modularization

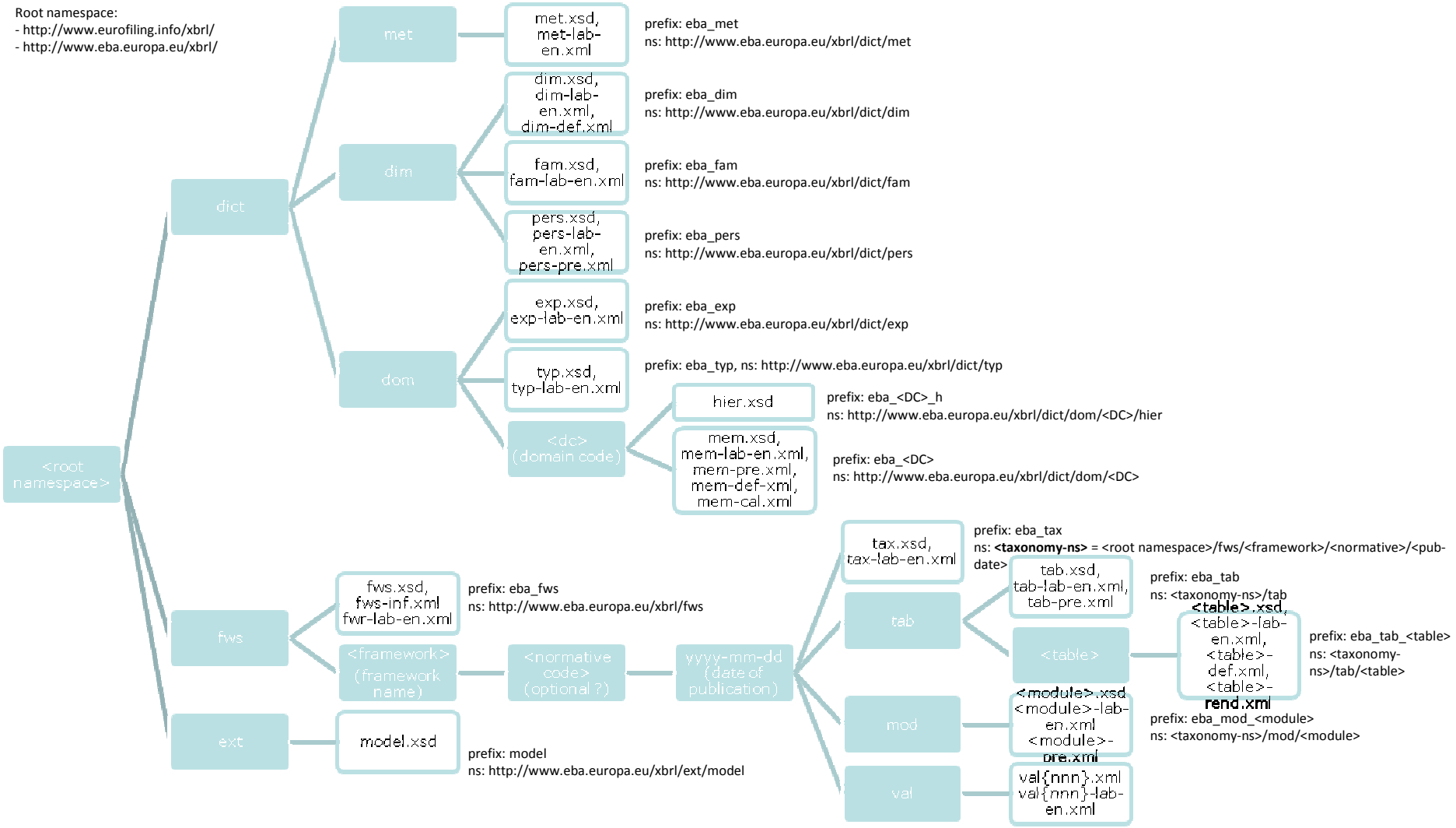


Mapping layer considerations

- Mapping approach:
  - Equivalence linkbase
  - Formula linkbase
  - Instance mapping
  - Resource mapping
  - XSLT style-sheets
  - Rendering linkbase

- Criteria for evaluation of mapping solutions
  - Standard specifications compliance
  - Maintenance of solution
  - Performance of processing (mapping)
  - Resources required for development
  - Support by software vendors

EBA Taxonomy Architecture and Content



Source: BR-AG

BS_C1

- A dimension ("Valuation general") is used to convey the valuation principle: "Valuation general", with values "Solvency II" or "Statutory accounts" used
  - A single code is used (the QRT will be modified with new codes, unique in the whole SII reporting)
- Items have been added when details are optional
  - When details are provided, the total must also be provided
  - Example: Equities (BS_C1_A7B) added, details: Equities, Listed (BS_C1_A7) and Equities, Unlisted (BS_C1_A7A)

BS_C1D (1)

- To avoid meaningless "Other" column
  - A new dimension has been added: "Threshold for material currencies" with two values: ">90%" and "≤10%" (needs to be refined since voluntary reporting may occur for <10% amounts)
  - The "Other" column corresponds to "Currency"="All", "Threshold for material currencies" = "≤10%"
- Some MDT primary items are common with BS_C1

BS_C1D (2)

- Some MDT primary items are common with BS_C1:
  - BS_C1D_A3 does not exist, it is BS_C1_A4
  - BS_C1D_A5 does not exist, it is BS_C1_A12
  - BS_C1D_A11 does not exist, it is BS_C1_L16
  - BS_C1D_A13 does not exist, it is BS_C1_L23

AS_D1

- Each line of the QRT table describes two objets
  - Asset
  - Line of asset
- To avoid duplicated information that would inflate instances and need to be checked, the table has been separated into two tables
  - Line of asset table, associated to two typed dimensions:
    - "Line of asset identification" (internal to the undertaking)
    - "Asset identification" (XML sequence of ("ID Code Type" and "ID Code")
  - Asset table identified by the same "Asset identification" dimension

Enumerations

- Enumerations will have the XML type QName, corresponding to member of Domains

  Advantages:

  - Values will correspond to Domain members that are XBRL concepts and may have labels, references…
  - The same domain may be shared by a dimension and a primary item (may be useful for Countries that may be a dimension or a primary item).

Restriction on simple XML type

- E.g.: non negative monetary or limited length text string
- Implemented by assertions on top of simple XML types

  Advantages:
  - The instance is not rejected at a very low level (XML validity)
  - A meaningful message may be associated to the error report (e.g.: "Name must be limited to 180 characters" instead of "XML type error…")

Assertions

- Each assertion is associated to
  - An identification (code) giving
    - The template(s) of the context of the assertion
    - The type of the assertion
    - A rank number
  - A meaningful label
  - Optionally, a tolerance margin

  e.g.:

  ID: BS_C1-P400

  Label: « Aggregation to "Loan and mortgages (except loans on policy)" »

  Check that BS_C1_A14 = BS_C1_A14B + BS_C1_A14C, with tolerance margin = 3000, for dimension "Valuation general" having value "Solvency II"
- The POC contain a limited set of assertions, showing various types

Primary item aggregation assertion

- ID: BS_C1-P400

  Label: « Aggregation to "Loan and mortgages (except loans on policy)" »

- Check that BS_C1_A14 = BS_C1_A14B + BS_C1_A14C, with tolerance margin = 3000, for “Solvency II value” dimension value

  Note: For “Statutory accounts” dimension values, A14B and A14C are not reported

Dimensional aggregation

- ID: BS_C1D-D100
- Label: « Dimensional aggregation for currencies »
- Check that, for all rows, the value in the Dimension value “Currency:Total” & “Threshold for material currencies:Total” column is the sum of other columns, with tolerance margin = 3000

Value checks

- ID: AS_D1-V100
- Label: « For equity, “Total SII amount” shall be equal to “Quantity” x “Unit SII price” + “Accrued interest” »
- Check that A26=A22*A23 +A30, if A22 exists, provided that A15 (CIC) !=~ /^..[7-9].$/, with tolerance margin = 3000

Type checks

- ID: AS_D1-T100
- Label: « Check the value of non negative monetary items »
- Check that (AS_D1_A22A, _A23, _A30) >= 0

Value check (cross-template)

- ID: BS_C1-BS-C1D-V100
- Label: « “Other assets within scope of AS_D1” shall be equal to “Property, plant & equipment held for own use” + “Cash and cash equivalent” »
- Check that BS_C1D_A4["Currency"="Total"][Threshold for material currencies"="Total"]=BS_C1_A3 + BS_C1_A27

Filing indicators

- A "Filing indicator" is a boolean concept
- Each template is associated to a Filing indicator
- When set to true, a Filing indicator means that the data in the template have been filed
- The assertions in a template are evaluated only if its Filing indicator is true
- Cross-template assertions are evaluated only if all the filing indicators of the needed template are reported

  E.g.: BS_C1-BS_C1D-V100 is evaluated only if both BS_C1 and BS_C1D are reported (BS_C1D is optional)

MERCI

Des questions?