DPM Refit and Digital Regulatory Reporting tool

10th October 2023

Aitor Azcoaga

European Insurance and
Occupational Pensions Authority

EIOPA Evolution of regulatory reporting with the current Data Point Model

- Solvency II reporting
- Impact on regulation development
- Tool for Undertakings (T4U) developed by EIOPA was used by financial institutions to create Solvency II reports
- Pilar III public disclosure templates
- IORP reporting since 2019
- PEPP reporting since 2022
- Financial Conglomerates since 2023
- Future: Digital Operational Resilience Act?

DPM as core process …for the regulatory reporting chain

What is the ISO 5116 - DPM?

The Data Point Modelling (DPM) is a data centric method for organising business terms and concepts in a hierarchical order. It is used to present data in various reporting scenarios which derive from the underlying legal requirements in a business-friendly and non-technical manner.

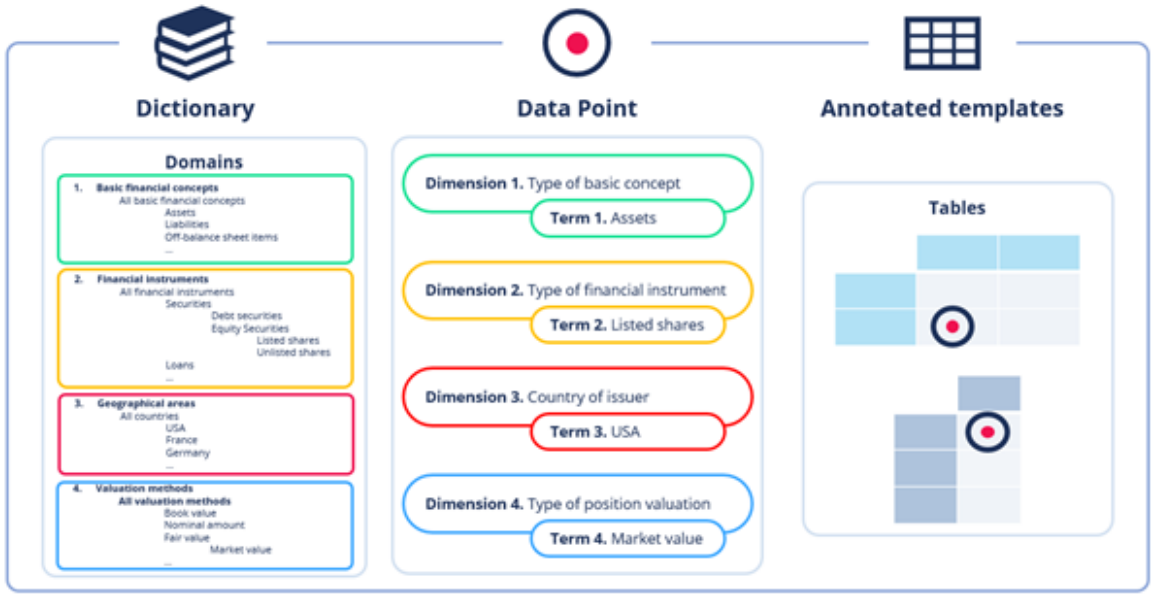


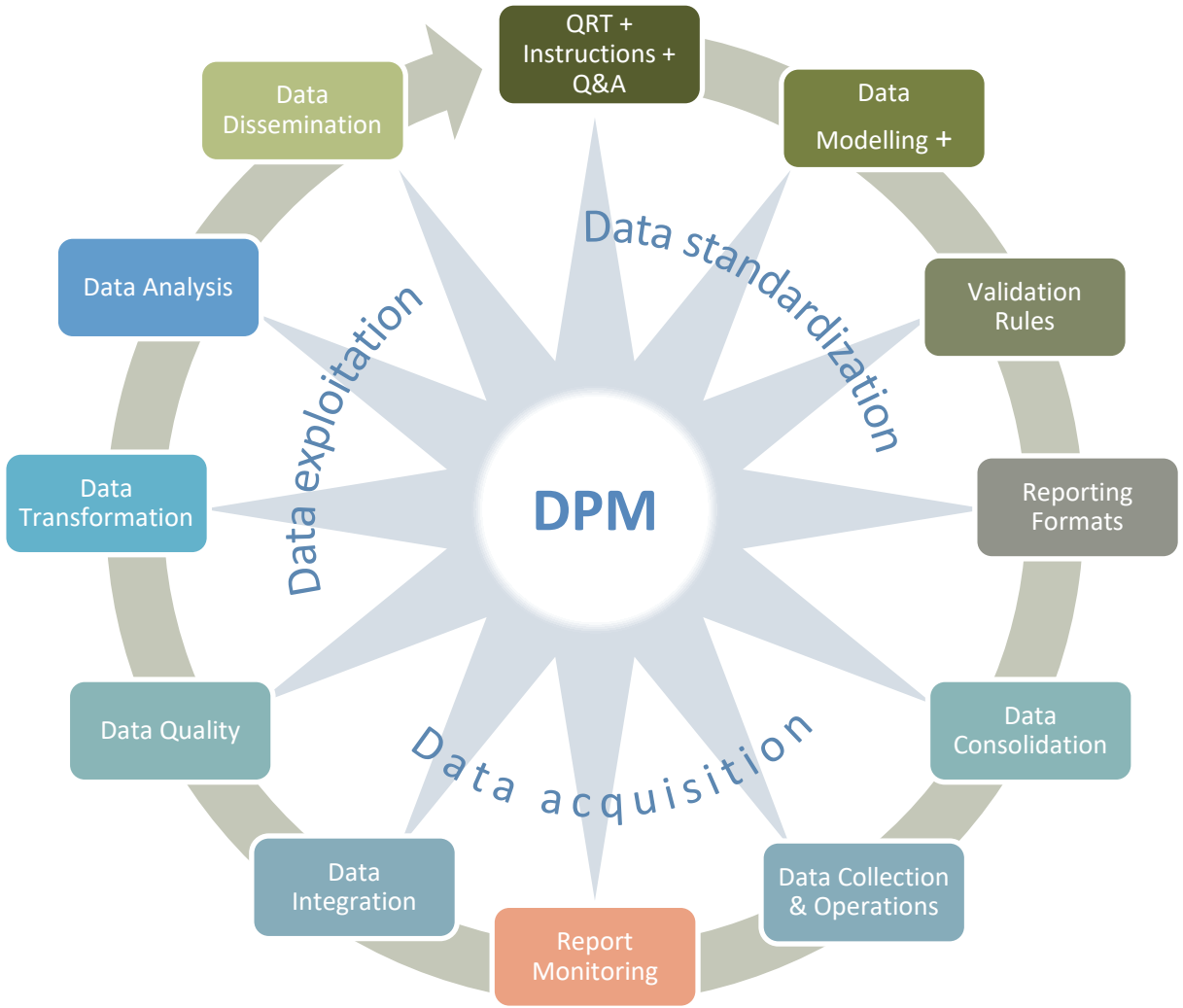
Figure 1: Decomposition of a business term (data point) with DPM method

The DPM method provides a precise, complete, and unambiguous definition of terms and concepts that enables the definition of logical structures of information requirements (such as messages, tables, data sets or cubes) based on underlying business dictionaries that can be understood by both business and technical users.

Soruce: https://committee.iso.org/sites/tc68/home/articles/content-left-area/articles/what-is-dpm.html

DPM covering the whole data lifecycle

- Defining better regulation
- Basis of semantic layer for data analytics
- Integration with data catalogue
- Support data preparation
- Definition and management data access policies
- Definition and management of calculation and derivation rules
- Definition and management of plausibility checks
- Organisation of data storage model
- Integrity checks of incoming data

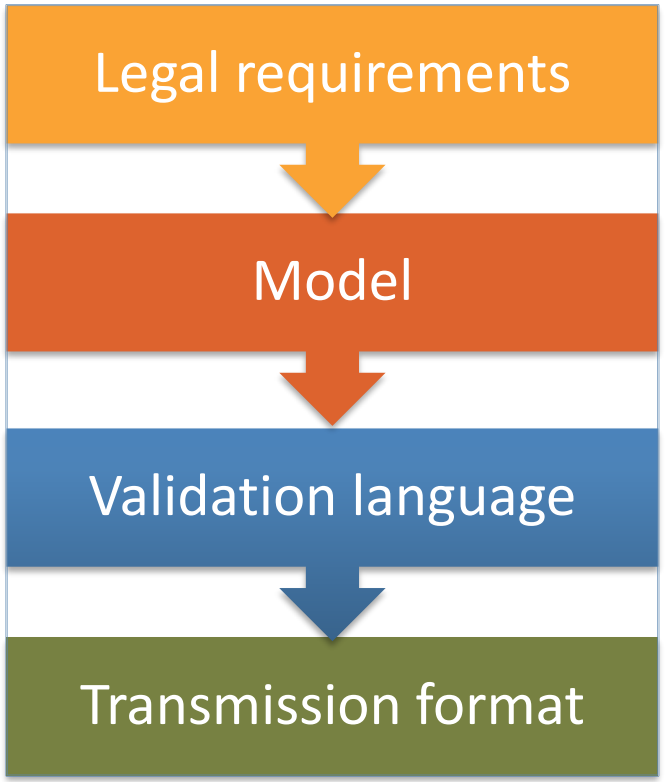


- Better understanding of regulation
- Definition and management of data requirements
- Definition and management of validation rules
- Basis for automatic generation of data exchange formats
- Reference for defining the report compliance rules
- Dynamic generation of data entry forms
- Definition of the reporting calendar
- Reference for checking report compliance
- Reuse/extension of existing templates across different reporting obligations

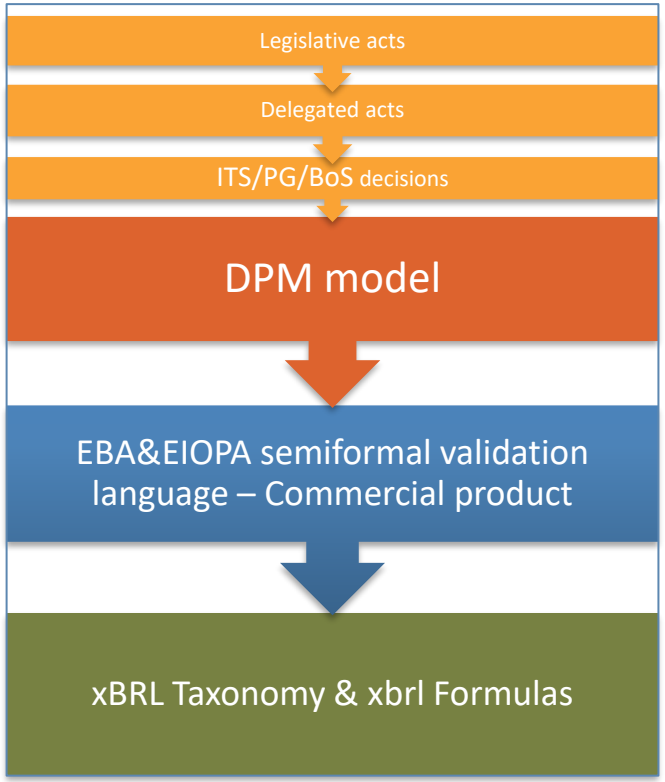
Slide based on a EBA's slide

Levels of data requirments tools

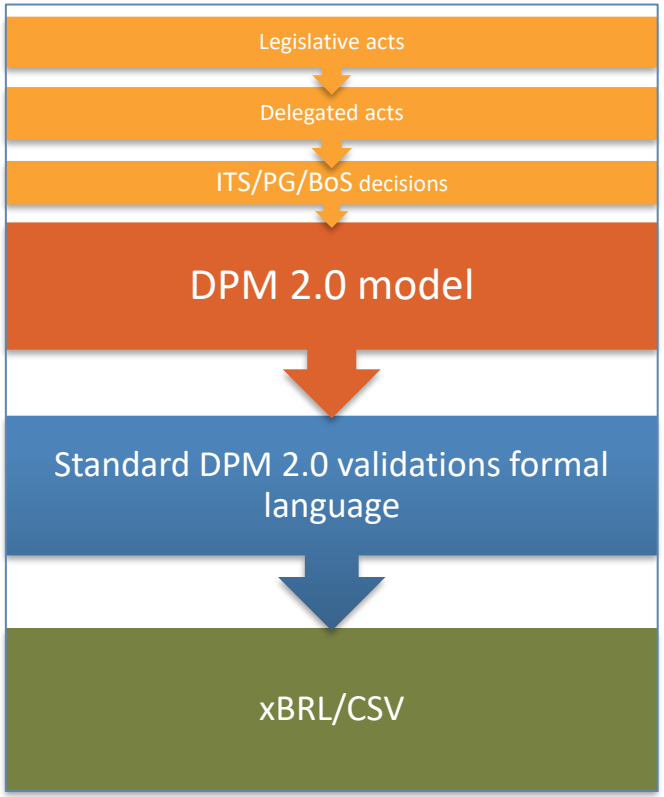
Conceptual



Current



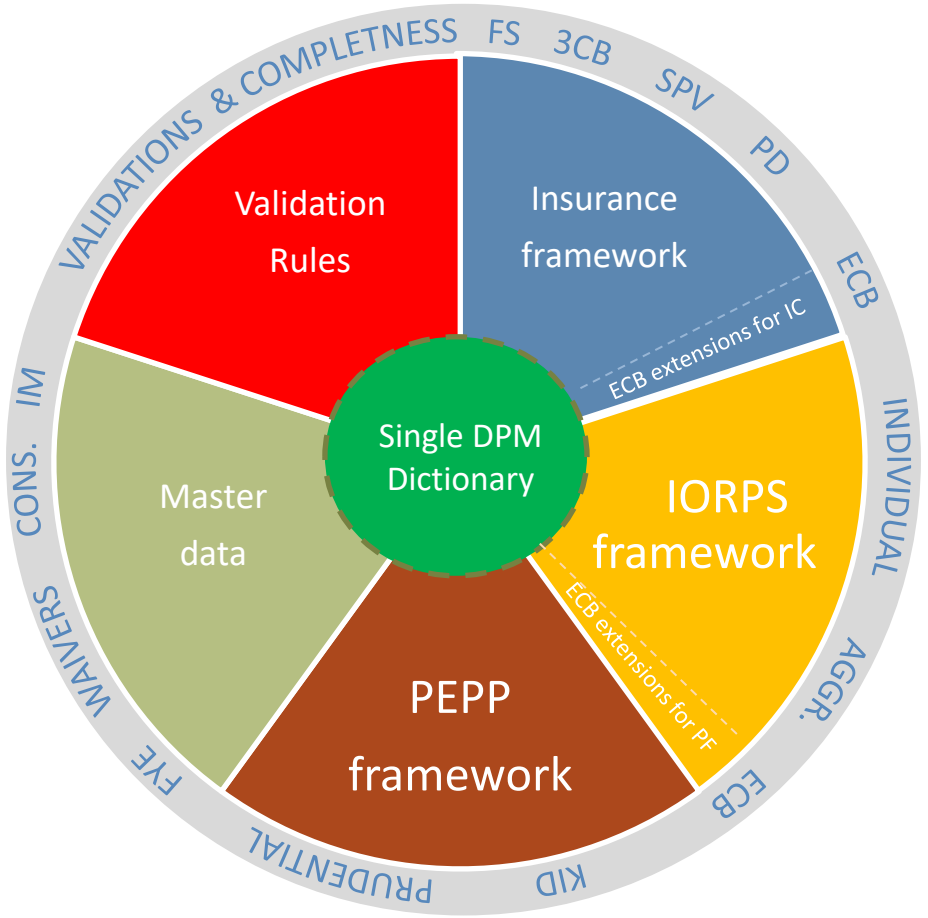
DPM 2.0 upgrades



DPM data dictionary vs XBRL taxonomies

Data dictionary features	XBRL	DPM
Formal definition of data requirements	☑	☑
Glossary of business terms	☑	☑
Dimensional data definitions	☑	☑
Templates rendering	☑	☑
Explicit metamodel	☒	☑
Invariant data point identifiers	☒	☑
Historisation of concepts and relationships	☒	☑
Metadata exploration with standard query languages	☒	☑
Verifiable global model consistency	☒	☑
Support frameworks integration	☒	☑

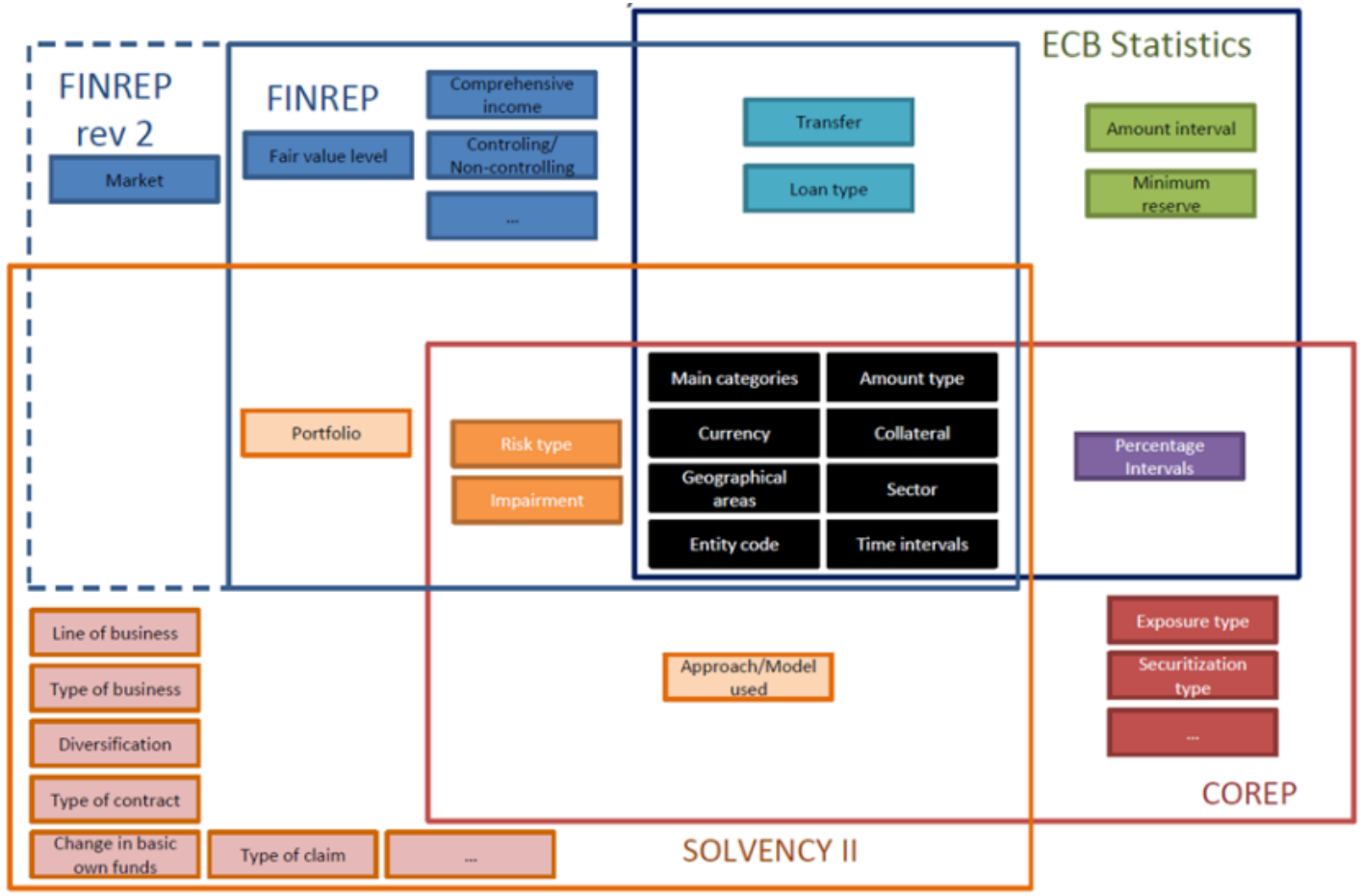
The EIOPA architecture outline on DPM



- The DPM implements the uniform and consistent definitions included in the implementing technical standards (ITS), guidelines and Board of Supervisors decisions on reporting and disclosure
- Provides a structured representation of the information, identifying all the business concepts and their relations, as well as validation rules
- It is composed of the annotated templates for the Solvency II, pension funds and pan-European pension products with a common DPM dictionary
- One model for all data reporting requirements under EIOPA remit (insurance, pensions, PEPP providers, public disclosure) and for the ECB reporting extensions
- The model facilitates the appliance of waivers and completeness information reporting via the basic information – Master data

DPM as core process …for the regulatory reporting chain

Cross framework harmonization



Commonalities between banking , insurance and pension funds sector are desirable:

- Common dimensions
- Data Point Modelling
- Common data types
- Taxonomy architecture
- Base primary items
- Label constructions
- Tools
- etc.

EBA-EIOPA collaboration

Use of DPM methodology

The EBA and EIOPA collaboration on data standardisation since both authorities started to use DPM methodology

Integration through a single data dictionary

Both ESAs have being very successful on integrating their regulatory frameworks using a single data dictionary

Building a metadata driven strategy

Both, adopted the metadata-driven strategy as the way to respond to changes and reduce costs

Facing challenges together

Similar future challenges, made evident the advantages of more strong collaboration and harmonisation

Working together in the development

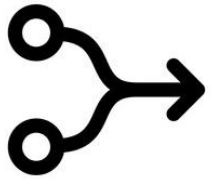
Experts from both ESAs have been working on the new common data model, envisaging the common development of Data Definition standards and tools

Building a common long-term goal

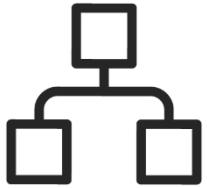
As a long-term goal, this should play a key role to enable a semantic integration of a single financial dictionary for the whole financial sector

Total convergence of EBA and EIOPA *methods, models, processes, and tools used for the development of data dictionaries and related regulatory products.*

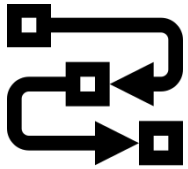
DPM 2.0 - Refit project goals



Total convergence of EBA and EIOPA methods, models, processes, and tools used for the development of data dictionaries and related regulatory products



Unified and versatile metamodel applicable to all regulatory data exchanges, from highly aggregated data points to very granular data sets of prudential, statistical or transactional information



Content extensible and interoperable for defining, reusing and exchanging metadata for regulatory data requirements

Enabling the possibility of subsequent **semantic integration** of data dictionaries across different regulatory domains

DPM 2.0 key new features

Agnostic

Not bound to a particular data exchange standard

Unified

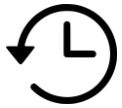
Single metamodel supporting different types of data sets

Rendering

Enabling data visualisation in the template layout

Versatile

Compatible with different approaches for data requirements definition



Historisation

Keeping track of individual changes of data dictionary concepts across releases

Relationships

Support for primary/foreign keys and tables association

Overview of the DPM 2.0 publication - Refit project

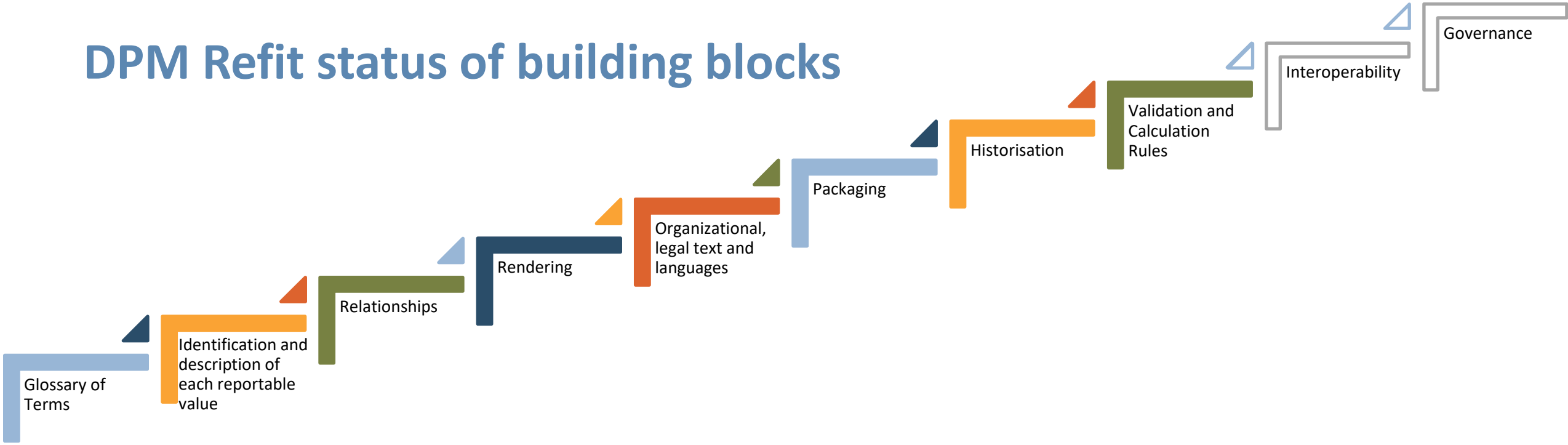
DPM standard

Published on 13/06/2023

- Documentation of the **DPM 2.0 Refit metamodel**
- Documentation of the **validation and transformation language**
- **Supporting documentation** with presentations, diagrams and database models
- An updated EBA and EIOPA common **xBRL taxonomy architecture**

https://www.eiopa.europa.eu/eba-and-eiopa-publish-data-point-modelling-standard-20-foster-collaboration-and-harmonisation-field-2023-06-13_en

DPM Refit status of building blocks



- Most of the building blocks are done/decided. From now only minor changes can be expected mainly due to experience gained when doing the migration of metadata and software
- Two building blocks still ahead to be developed: interoperability and governance
- EBA, EIOPA and other EU component authorities are analyzing the following DPM Refit implementation phases

ORIGINAL MAIN DPM EIOPA SOLVENCY II DPM ARTEFACTS

Dictionary

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	Label	Name	Default	Owner	Creation date	Validity date	Last modifie	Count	Comment	Hierarchy	Name	Hierarchy node label	Sign	Weight	Owner	Usable
2	NA	x0	yes	s2c	07.07.2014			0		1: Valuation general						
3	Absolute floor	x1		s2c	07.07.2014			1		Statutory accounts	x84	Statutory accounts				
4	Absolute value after shock	x2		s2c	07.07.2014			1		IFRS	x45	IFRS				
5	Absolute value before shock	x3		s2c	07.07.2014			1		Local GAAP	x50	Local GAAP				
6	Accident year [AY]	x4		s2c	07.07.2014			1		Prudential	x95	Prudential				
7	Accrued interests	x5		s2c	07.07.2014			1		Solvency II	x80	Solvency II	=			
8	Accumulated	x6		s2c	07.07.2014			1		Accrued interests	x5	Accrued interests		+		
9	Acquisition price [per unit]	x7		s2c	07.07.2014	30.09.2015	31.07.2015	1		Solvency II without accrued interests	x81	Solvency II without accrued interests		+		
10	Adjustment of valuation of assets h	x8		s2c	07.07.2014			1		Prudential other than Solvency II	x72	Prudential other than Solvency II				
11	Aggregate deductibles	x9		s2c	07.07.2014			1		Solvency I	x121	Solvency I				
12	Average	x10		s2c	07.07.2014			1		Difference between Solvency II and statutory account	x24	Difference between Solvency II and statutory account				
13	Average [arithmetic]	x11		s2c	07.07.2014	31.12.2013		1		Statutory accounts values adjusted for Solvency II valuation diffe	x85	Statutory accounts values adjusted for Solvency II valuation differences				
14	Average [weighted]	x12		s2c	07.07.2014			1		Reclassification adjustments	x130	Reclassification adjustments				
15	Balance of contractual amount	x13		s2c	07.07.2014			1		2: Types of amount					s2c	

Versioning | Owners | Domains | Dimensions | met HD | met MD | AM | AO | AP | BC | BR | BT | CA | CE | CG | CM | CN | CS | CU | DC | DI | DO

Annotated Templates

S.06.02.01

List of assets

S.06.02.01.01

Z Axis:

SU/Assets other than derivatives and Assets held as collateral

Information on positions held

Line identification	Asset ID Code	Fund number	Matching portfolio number	Portfolio	Asset held in unit linked and index linked contracts	Asset pledged as collateral	Country of custody	Custodian	Quantity	Par amount	Valuation method	Acquisition value	Total Solvency II amount	Accrued interest
C0010	C0040	C0070	C0080	C0060	C0090	C0100	C0110	C0120	C0130	C0140	C0150	C0160	C0170	C0180
artificial key	*foreign key to S.06.02.01.02*			Metric: Portfolio (inv	Metric: Held in unit li	Metric: Asset pledge	Metric: Country of cu	Metric: String	Metric: Decimal	Metric: Monetary	Metric: Valuation me	Metric: Monetary	Metric: Monetary	Metric: Monetary
XA: S.06.02 line iden	UI: URI	NF: Number of fund	MP: Matching portfolio number					TS/Custodian	DC/Quantity	TA/Notional amount		TA/Acquisition price	VG/Solvency II	VG/Accrued interests
										BC/Assets		BC/Assets	BC/Assets	BC/Assets
										VG/Solvency II		VG/Solvency II		

... | S.04.01.01 | S.04.02.01 | S.05.01.01 | S.05.01.02 | S.05.01.13 | S.05.02.01 | S.06.01.01 | S.06.02.01 | S.06.02.04 | S.06.02.07 | SE.06.02.16 | SE.06.02.18 | S.06.03.01 | S.06.03.04

Validations

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Validation ID	Release	Template 1	Template 2	Template 3	Template 4	Template 5	Template 6	Rows	Columns	Filter	Validation	Error message
2	BV1	2.0.0	S.01.02									{r0050,c0010} - data type constrains [ISO 3166-1: alpha-2 code]	Data type ISO 3166-1 incorrect
3	BV2	2.0.0	S.06.02									{c0390} - data type constrains [ISO 8601: (yyyy-mm-dd)]	Data type ISO 8601 incorrect
4	BV4	2.0.0	S.06.02									if {c0290} like '##3#' or {c0290} like '##4#' or {c0290} like '##71' or {c0290} like '##72' or {c0290} like '##73' or {c0290} like '##	Item should not be reported for th
5	BV5	2.0.0	S.06.02									if {c0290} like '##71' or {c0290} like '##75' or {c0290} like '##95' then {c0110} = empty	Item should not be reported for th
6	BV6	2.0.0	S.06.02									if {c0290} like '##71' or {c0290} like '##75' or {c0290} like '##9#' then {c0270} = empty	Item should not be reported for th
7	BV7	2.0.0	S.06.03									{c0040} - data type constrains [ISO 3166-1: alpha-2 code;or 'XA';or 'EU';or 'AA']	Data type ISO 3166-1/XA/EU incc
8	BV8	2.0.0	S.08.01							c0370;0410;0420		data type constrains [ISO 4217: alphabetic code]	Data type ISO 4217 incorrect
9	BV9	2.0.0	S.08.01							c0220;0430		data type constrains [ISO 8601: (yyyy-mm-dd)]	Data type ISO 8601 incorrect
10	BV10	2.0.0	S.08.02							c0310;0350;0360		data type constrains [ISO 4217: alphabetic code]	Data type ISO 4217 incorrect
11	BV11	2.0.0	S.08.02							c0220;0370		data type constrains [ISO 8601: (yyyy-mm-dd)]	Data type ISO 8601 incorrect
12	BV12	2.0.0	S.10.01							c0150;0160		data type constrains [ISO 8601: (yyyy-mm-dd)]	Data type ISO 8601 incorrect
13	BV13	2.0.0	S.11.01									{c0080} - data type constrains [ISO 3166-1: alpha-2 code]	Data type ISO 3166-1
14	BV14	2.0.0	S.11.01									{c0230} - data type constrains [ISO 3166-1: alpha-2 code;or 'XA'; or 'EU']	Data type ISO 3166-1/XA/EU incc
15	BV15	2.0.0	S.11.01									{c0240} - data type constrains [ISO 4217: alphabetic code]	Data type ISO 4217 incorrect
16	BV16	2.0.0	S.11.01									{c0280} - data type constrains [ISO 8601: (yyyy-mm-dd)]	Data type ISO 8601 incorrect
17	BV17	2.0.0	S.02.01	S.02.02								{S.02.01, r0060,c0010}+{S.02.01, r0410,c0010}+{S.02.01, r0240,c0010}+{S.02.01, r0250,c0010}+{S.02.01, r0260,c0010}=(	The "Other assets: Property, plan
18	BV18	2.0.0	S.12.01							c0020;0090;0100;0150;0190;02(		{r0200}={r0010}+{r0030}+{r0100}+{r0110}+{r0120}+{r0130}	The item "Technical provisions - t

Readme | Business Validation for 2.0.1 | XBRL Tax Assertions for 2.0.1 | Identical datapoins for 2.0.1

- labels and codes of concepts
- validity/currency period
- relationships (hierarchies)
- mathematical relations
- applicable dimensions and sheets
- tables' titles and codification
- organization of tables (RC codes) and their layout
- description of data points (metrics + set of dimension/domain member pairs)
- identification of MD and HD components of each data points
- identification of rules (business and technical)
- referenced templates
- filters
- expressions
- error messages
- list of the identical data points

Current main DPM EIOPA Solvency II DPM artefacts?

Annotated Templates

S.05.01.02.02 - Life

Sheets (TemporaryAxisCode_186729)	

			Line of Business for: life insurance obligations						Life reinsurance obligations		Total	Metrics	s2c_dim:IZ (Acceptance/cover of risks)
			Health insurance	Insurance with profit participation	Index-linked and unit-linked insurance	Other life insurance	Annuities stemming from non-life insurance contracts and relating to health insurance obligations	Annuities stemming from non-life insurance contracts and relating to insurance obligations other than health insurance	Health reinsurance	Life reinsurance			
			C0210	C0220	C0230	C0240	C0250	C0260	C0270	C0280	C0300		
Premiums written	Gross	R1410										s2md_met:mi503 (Metric: Monetary|BC/Premiums written)	s2c_RT:x1 (Accepted during the period)
	Reinsurers' share	R1420										s2md_met:mi504 (Metric: Monetary|BC/Premiums written|CC/Ceded)	s2c_RT:x1 (Accepted during the period)
	Net	R1500										s2md_met:mi505 (Metric: Monetary|BC/Premiums written|CC/Not ceded)	s2c_RT:x1 (Accepted during the period)
Premiums earned	Gross	R1510										s2md_met:mi503 (Metric: Monetary|BC/Premiums written)	s2c_RT:x18 (Covered during the period)
	Reinsurers' share	R1520										s2md_met:mi504 (Metric: Monetary|BC/Premiums written|CC/Ceded)	s2c_RT:x18 (Covered during the period)
	Net	R1600										s2md_met:mi505 (Metric: Monetary|BC/Premiums written|CC/Not ceded)	s2c_RT:x18 (Covered during the period)
Claims incurred	Gross	R1610										s2md_met:mi281 (Metric: Monetary|BC/Claims incurred)	
	Reinsurers' share	R1620										s2md_met:mi287 (Metric: Monetary|BC/Claims incurred|CC/Ceded)	
	Net	R1700										s2md_met:mi288 (Metric: Monetary|BC/Claims incurred|CC/Not ceded)	
Expenses incurred		R1900										s2md_met:mi319 (Metric: Monetary|BC/Expenses|TE/Administration, investments management, claims management, acquisition and overhead|CC/Not ceded)	
Balance - other technical expenses/income		R2510										s2md_met:mi2559 (Metric: Monetary|BC/Balance of other technical expenses/income|TE/Other than administration, investments management, claims management, acquisition and overhead|CC/Not ceded)	
Total technical expenses		R2600										s2md_met:mi336 (Metric: Monetary|BC/Expenses|CC/Not ceded)	
Total amount of surrenders		R2700										s2md_met:mi290 (Metric: Monetary|BC/Claims paid or due to be paid regarding surrender [full or partial] by policyholders)	
		s2c_dim:TB (Insurance/reinsurance business)	s2c_LB:x28 (Direct Business)	s2c_LB:x28 (Direct Business)	s2c_LB:x28 (Direct Business)	s2c_LB:x28 (Direct Business)	s2c_LB:x28 (Direct Business)	s2c_LB:x28 (Direct Business)	s2c_LB:x109 (Reinsurance accepted)	s2c_LB:x109 (Reinsurance accepted)			
		s2c_dim:BL (Line of business [general])	s2c_LB:x45 (Health SLT)	s2c_LB:x53 (Insurance with profit participation)	s2c_LB:x119 (Unit-linked or index-linked)	s2c_LB:x93 (Other life)	s2c_LB:x10 (Annuities stemming from non-life insurance contracts and relating to health insurance obligations)	s2c_LB:x11 (Annuities stemming from non-life insurance contracts and relating to insurance obligations other than health insurance	s2c_LB:x46 (Health SLT and annuities stemming from non-life insurance contracts and relating to health insurance obligations)	s2c_LB:x172 (Life and annuities stemming from non-life insurance contracts and relating to insurance obligations other than health insurance	s2c_LB:x65 (Life and Health SLT)		

- tables' titles and codification
- one table per worksheet for Excel output
- organization of tables (RC codes) and their layout
- description of data points (metrics + set of dimension/domain member pairs)
- identification of MD and HD components of each data point
- model provided in MD format to align with the rest of deliverables

What are the main DPM EIOPA Solvency II DPM artefacts?

Dictionary

Label (en)	Code	Description (en)	Owner	Default	Creation date	Valid from	Valid to	Last modification	Hierarchy (en)	Hierarchy member code	Hierarchy/member owner	Hierarchy node label (en)	Hierarchy/node description (en)	Sign	Weight	Usable	Hierarchy creation date
NA	x0		s2c	TRUE	07/07/2014				1: Valuation general		s2c						07/07/2014
Absolute floor	x1		s2c	FALSE	07/07/2014				Statutory accounts	x84	s2c	Statutory accounts				TRUE	07/07/2014
Average	x10		s2c	FALSE	07/07/2014				IFRS	x45	s2c	IFRS				TRUE	07/07/2014
Overriding Commission	x100		s2c	FALSE	07/07/2014		31/12/2013		Local GAAP	x50	s2c	Local GAAP				TRUE	07/07/2014
Overriding Commission [Maximum]	x101		s2c	FALSE	07/07/2014		31/12/2013		Prudential	x95	s2c	Prudential				TRUE	07/07/2014
Overriding Commission [Minimum]	x102		s2c	FALSE	07/07/2014		31/12/2013		Solvency II	x80	s2c	Solvency II		=		TRUE	07/07/2014
Overriding Commission [Expected]	x103		s2c	FALSE	07/07/2014		31/12/2013		Accrued interests	x5	s2c	Accrued interests			+	TRUE	07/07/2014
Profit Commission	x104		s2c	FALSE	07/07/2014		31/12/2013		Solvency II without accrued interests	x81	s2c	Solvency II without accrued interests			+	TRUE	07/07/2014
Profit Commission [Maximum]	x105		s2c	FALSE	07/07/2014		31/12/2013		Prudential other than Solvency II	x72	s2c	Prudential other than Solvency II				TRUE	07/07/2014
Profit Commission [Minimum]	x106		s2c	FALSE	07/07/2014		31/12/2013		Solvency I	x121	s2c	Solvency I				TRUE	30/09/2015
Profit Commission [Expected]	x107		s2c	FALSE	07/07/2014		31/12/2013		Difference between Solvency II and statutory account	x24	s2c	Difference between Solvency II and statutory account				TRUE	07/07/2014
The undertaking is using IFRS	x108		s2c	FALSE	30/09/2015		31/12/2013		Statutory accounts values adjusted for Solvency II valuation differences	x85	s2c	Statutory accounts values adjusted for Solvency II valuation differences				TRUE	07/07/2014
The undertaking is using local GAAP (other than IFRS)	x109		s2c	FALSE	30/09/2015		31/12/2013		Reclassification adjustments	x130	s2c	Reclassification adjustments				TRUE	30/09/2015
Average [arithmetic]	x11		s2c	FALSE	07/07/2014		31/12/2013		10: Accounting standards (Individual)		s2c						30/09/2015
The group is using IFRS	x110		s2c	FALSE	30/09/2015		31/12/2013		The undertaking is using IFRS	x108	s2c	1 - The undertaking is using IFRS				TRUE	30/09/2015
The group is using local GAAP (other than IFRS)	x111		s2c	FALSE	30/09/2015		31/12/2013		The undertaking is using local GAAP (other than IFRS)	x109	s2c	2 - The undertaking is using local GAAP (other than IFRS)				TRUE	30/09/2015
Collateralized assets value	x112		s2c	FALSE	30/09/2015				11: Accounting standards		s2c						30/09/2015
Collateralized liabilities value	x113		s2c	FALSE	30/09/2015				IFRS	x45	s2c	1 - IFRS				TRUE	07/07/2014

Versioning | Owners | Domains | Dimensions | Metrics | s2c_AM | s2c_AO | s2c_AP | s2c_BC | s2c_BR | s2c_BT | s2c_CA | s2c_CE | s2c_CG | s2c_CM | s2c_CN | s2c_CS | s2c_CU | s2c_DC | s2c_DI | s2c_DO | s2c_EI | s2c_EL | s2c_EX | s2c_GA | s2c_LA | s2c_LB | s2c_LT | s2c_MC | s2c_NC | s2c_NT | s2c_PC | s2c_P

- labels and codes of concepts
- designation of concept owner
- identification of default value
- validity/currency period
- additional comment and description if necessary

- relationships (hierarchies)
- specific label to be assigned within given hierarchy
- arithmetical relations
- identification of grouping and usable elements
- hierarchy validity period

What are the main DPM EIOPA Solvency II DPM artefacts?

Validations

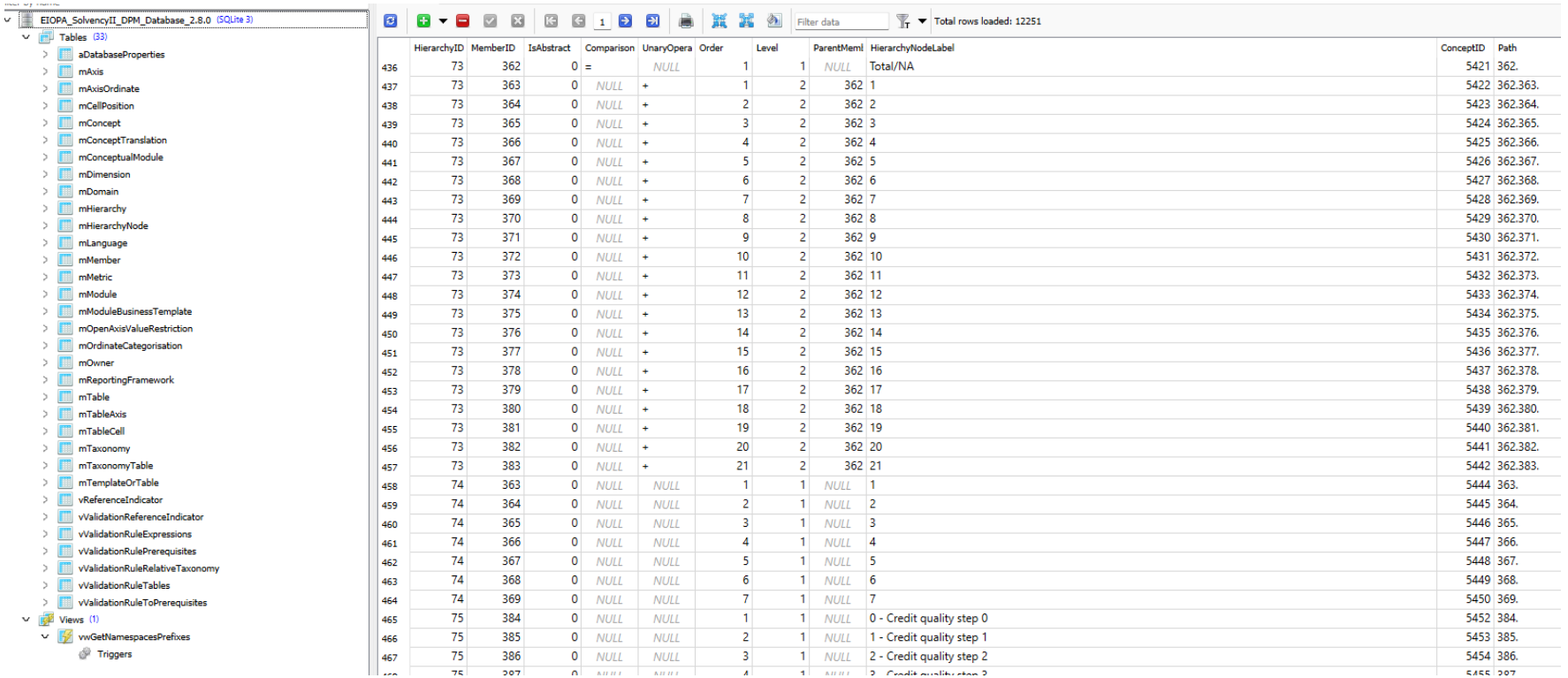
Owner	Framework code	Rule code	Mapping to 2.7.0	Release	Last modification date	Scope	Where	Join	Expression	Simplified Expression	Include in XBRL	Deactivated	Deactivated on	Reason for deactivation	Full or partial deactivation	Reactivated on	Always execute
s2md	solvency	TV38		2.8.0					not(matches(dim({d	not(matches(dim({d: [s2c_dim:YX]},[s2c_dim:YX]), "((^)|( )|($))+"))	yes	no					no
s2md	solvency	TV30		2.8.0					not(matches(dim({d	not(matches(dim({d: [s2c_dim:XJ]},[s2c_dim:XJ]), "((^)|( )|($))+"))	yes	no					no
s2md	solvency	TV25		2.8.0					not(matches(dim({d	not(matches(dim({d: [s2c_dim:YL]},[s2c_dim:YL]), "((^)|( )|($))+"))	yes	no					no
s2md	solvency	BV1252		2.8.0					count({t: S.01.01.13.(	count({t: S.01.01.13.01, r: R0010; R0030; R0110; R0140; R0410; R0490; R0960; R0980, c: C0010}) = 8	yes	no					yes
s2md	solvency	BV315_1-9	BV315_1	2.0.0	15/07/2023	scope({t: S.02.01.01.01, c:C0010, f: solvency, fv: solvency2})			{t: S.02.01.01.01, r: R(	{t: S.02.01.01.01, r: R0280} = {t: S.02.01.01.01, r: R0290} + {t: S.02.01.01.01, r: R0300}	yes	no					no
s2md	solvency	BV316_1-9	BV316_1	2.0.0	15/07/2023	scope({t: S.02.01.01.01, c:C0010, f: solvency, fv: solvency2})			{t: S.02.01.01.01, r: R(	{t: S.02.01.01.01, r: R0310} = {t: S.02.01.01.01, r: R0320} + {t: S.02.01.01.01, r: R0330}	yes	no					no
s2md	solvency	BV318_1-9	BV318_1	2.0.0	15/07/2023	scope({t: S.02.01.01.01, c:C0010, f: solvency, fv: solvency2})			{t: S.02.01.01.01, r: R(	{t: S.02.01.01.01, r: R0100} = {t: S.02.01.01.01, r: R0110} + {t: S.02.01.01.01, r: R0120}	yes	no					no
s2md	solvency	BV328_1-5	BV328_1	2.0.0	15/07/2023	scope({t: S.02.01.01.01, c:C0010, f: solvency, fv: solvency2})			{t: S.02.01.01.01, r: R(	{t: S.02.01.01.01, r: R0850} = {t: S.02.01.01.01, r: R0860} + {t: S.02.01.01.01, r: R0870}	yes	no					no
s2md	solvency	BV712-9	BV712	2.3.0	15/07/2023				if ({t: S.02.01.01.01, r	if ({t: S.02.01.01.01, r: R0710, c: C0010} != 0) then {t: S.02.01.01.01, r: R0720, c: C0010} > 0 else true()	yes	no					no
s2md	solvency	BV714-9	BV714	2.3.0	15/07/2023				{t: S.02.01.01.01, r: R(	{t: S.02.01.01.01, r: R0500, c: C0010} > 0	yes	no					no
s2md	solvency	BV715-9	BV715	2.3.0	15/07/2023				{t: S.02.01.01.01, r: R(	{t: S.02.01.01.01, r: R0900, c: C0010} > 0	yes	no					no
s2md	solvency	BV716-9	BV716	2.3.0	15/07/2023				{t: S.02.01.01.01, r: R(	{t: S.02.01.01.01, r: R0410, c: C0010} > 0	yes	no					no
s2md	solvency	BV1206		2.7.0					matches({t: S.52.01.(	matches({t: S.52.01.01.02, z: Z0020}, "one of options as per ISO 3166-1")	no	no					no

Error message	Label	Severity and modules	Under investigation	General comments	Temporary or permanent deactivation	T1	T2
BUSINESS(en) - TV38: Double, tailin	SHORT_LABEL(en) - TV38: Double, tailing or leading whitespaces are not allowed.	ERROR - qeb| ERROR - qes| ERROR - arb| ERROR - ars| ERROR - qfg					
BUSINESS(en) - TV30: Double, tailin	SHORT_LABEL(en) - TV30: Double, tailing or leading whitespaces are not allowed.	ERROR - qeb| ERROR - qes| ERROR - arb| ERROR - ars| ERROR - qfg					
BUSINESS(en) - TV25: Double, tailin	SHORT_LABEL(en) - TV25: Double, tailing or leading whitespaces are not allowed.	ERROR - qeb| ERROR - qes| ERROR - arb| ERROR - ars| ERROR - qfg					
BUSINESS(en) - [BV1252];[count((t:	SHORT_LABEL(en) - BV1252: Item cannot be empty.	ERROR - qfg				S.01.01.13.01	
BUSINESS(en) - [BV315_1-9];[scope(	SHORT_LABEL(en) - BV315_1: The item "Reinsurance recoverables from Non-life and health similar to non-life" reported in S.02.01 - Balance sheet must be equal to the sum of "Reinsurance recoverables from: Non-life excluding health" and "Reinsurance recoverables from: Health similar to non-life".	ERROR - qfg				S.02.01.01.01	
BUSINESS(en) - [BV316_1-9];[scope(	SHORT_LABEL(en) - BV316_1: The item "Reinsurance recoverables from Life and health similar to life, excluding health and index-linked and unit-linked" reported in S.02.01 - Balance sheet must be equal to the sum of "Reinsurance recoverables from: Health similar to life" and "Reinsurance recoverables from: Life excluding health and index-linked and "unit-linked".	ERROR - qfg				S.02.01.01.01	
BUSINESS(en) - [BV318_1-9];[scope(	SHORT_LABEL(en) - BV318_1: The item "Equities" reported in S.02.01 - Balance sheet must be equal to the sum of "Equities - listed" and "Equities - unlisted".	ERROR - qfg				S.02.01.01.01	
BUSINESS(en) - [BV328_1-5];[scope(	SHORT_LABEL(en) - BV328_1: The item "Subordinated liabilities" reported in S.02.01 - Balance sheet must be equal to the sum of "Subordinated liabilities not in Basic Own Funds" and "Subordinated liabilities in Basic Own Funds".	ERROR - qfg				S.02.01.01.01	
BUSINESS(en) - [BV712-9];[if ((t: S.0	SHORT_LABEL(en) - BV712: If the item "Best estimate" reported in S.02.01 - Balance sheet is not equal to zero, the item "Risk margin" should be strictly positive.	WARNING - qfg				S.02.01.01.01	
BUSINESS(en) - [BV714-9];[(t: S.02.0	SHORT_LABEL(en) - BV714: The item "Total assets" reported in S.02.01 - Balance sheet should be positive.	WARNING - qfg				S.02.01.01.01	
BUSINESS(en) - [BV715-9];[(t: S.02.0	SHORT_LABEL(en) - BV715: The item "Total liabilities" reported in S.02.01 - Balance sheet should be positive.	WARNING - qfg				S.02.01.01.01	
BUSINESS(en) - [BV716-9];[(t: S.02.0	SHORT_LABEL(en) - BV716: The item "Cash and cash equivalents" reported in S.02.01 - Balance sheet should be positive.	WARNING - qfg				S.02.01.01.01	
BUSINESS(en) - [BV1206];[matches(	SHORT_LABEL(en) - Data type ISO 3166-1 incorrect.	ERROR - arb| ERROR - ars| ERROR - aes| ERROR - aeb				S.52.01.01.02	

- identification of owner and framework
- codification of rules (business and technical)
- information on release and modification
- filters
- full and simplified expressions
- validation implementation (XBRL) and rule life cycle
- error messages
- rule severity
- applicable tables

Other deliverables generated from the platform

Database



	HierarchyID	MemberID	IsAbstract	Comparison	UnaryOpera	Order	Level	ParentMeml	HierarchyNodeLabel	ConceptID	Path
436	73	362	0	=	NULL	1	1	NULL	Total/NA	5421	362.
437	73	363	0	NULL	+	1	2	362	1	5422	362.363.
438	73	364	0	NULL	+	2	2	362	2	5423	362.364.
439	73	365	0	NULL	+	3	2	362	3	5424	362.365.
440	73	366	0	NULL	+	4	2	362	4	5425	362.366.
441	73	367	0	NULL	+	5	2	362	5	5426	362.367.
442	73	368	0	NULL	+	6	2	362	6	5427	362.368.
443	73	369	0	NULL	+	7	2	362	7	5428	362.369.
444	73	370	0	NULL	+	8	2	362	8	5429	362.370.
445	73	371	0	NULL	+	9	2	362	9	5430	362.371.
446	73	372	0	NULL	+	10	2	362	10	5431	362.372.
447	73	373	0	NULL	+	11	2	362	11	5432	362.373.
448	73	374	0	NULL	+	12	2	362	12	5433	362.374.
449	73	375	0	NULL	+	13	2	362	13	5434	362.375.
450	73	376	0	NULL	+	14	2	362	14	5435	362.376.
451	73	377	0	NULL	+	15	2	362	15	5436	362.377.
452	73	378	0	NULL	+	16	2	362	16	5437	362.378.
453	73	379	0	NULL	+	17	2	362	17	5438	362.379.
454	73	380	0	NULL	+	18	2	362	18	5439	362.380.
455	73	381	0	NULL	+	19	2	362	19	5440	362.381.
456	73	382	0	NULL	+	20	2	362	20	5441	362.382.
457	73	383	0	NULL	+	21	2	362	21	5442	362.383.
458	74	363	0	NULL	NULL	1	1	NULL	1	5444	363.
459	74	364	0	NULL	NULL	2	1	NULL	2	5445	364.
460	74	365	0	NULL	NULL	3	1	NULL	3	5446	365.
461	74	366	0	NULL	NULL	4	1	NULL	4	5447	366.
462	74	367	0	NULL	NULL	5	1	NULL	5	5448	367.
463	74	368	0	NULL	NULL	6	1	NULL	6	5449	368.
464	74	369	0	NULL	NULL	7	1	NULL	7	5450	369.
465	75	384	0	NULL	NULL	1	1	NULL	0 - Credit quality step 0	5452	384.
466	75	385	0	NULL	NULL	2	1	NULL	1 - Credit quality step 1	5453	385.
467	75	386	0	NULL	NULL	3	1	NULL	2 - Credit quality step 2	5454	386.

- provided in SQLite format
- follows the structure of previous SQLite database
- contains SQL representation of validations
- new pattern for data point key
- still contains placeholder tables for data storage
- no MAPPING and CRT tables (EIOPA provided scripts and source code for users to generate on their own, if needed)
- .bak file it is now redundant

Other deliverables generated from the platform

Detailed change log

Change log between EIOPA_SolvencyII_DPM_Database_2.X.0 and EIOPA_SolvencyII_DPM_Database_2.8.0	
Sheet	Description
Dictionary element added	Dictionary element (Member, Domain, Dimension, Hierarchy) added
Dictionary element label change	Dictionary element (Member, Domain, Dimension, Hierarchy) label change
Hierarchy node change	Hierarchy member added, removed or moved (different level or order) or comparison/unary operator changed
Metric enumeration change	Metric enumeration (hierarchy reference) change
Table added or removed	Template variant or table added or removed
Table label change	Template variant or table label change
Module change	Module added, removed, label or code change
Module template change	Module reference to template is added or removed
Table axis change	Table is added or removed an axis
Table ordinate change	Ordinate added to or removed from table (based on RC codes, does not include abstract ordinates)
Ordinate label change	Ordinate with the same RC code has different label
Table cell change	Table has new cells or cells turned reportable/not reportable
Ordinate categorisation added or removed	Changes in ordinates categorisation

Element code	Element type	Element label
CN165	Hierarchy	IGT - Profit and Loss (Full scope individual) [280]
CN166	Hierarchy	Assets held as collateral [280]
CU7	Hierarchy	Currency list
GA603	Hierarchy	Issuer country and country of residence [Pension funds for ECB]
SE36	Hierarchy	Nominated ECAI (including SCR simplification)
SE37	Hierarchy	Nominated ECAI (Group reporting)
SE38	Hierarchy	Nominated ECAI (Group reporting including SCR simplification)
s2c_CU:x9	Member	Other currencies
s2c_DC:x16	Member	Number of underlying assets in contract
s2c_DC:x17	Member	Number of contracts
s2c_GA:x142	Member	Home country and not EEA countries
s2c_dim:ZD	Dimension	S.30.02.zz.01 line identification
s2c_dim:ZE	Dimension	S.30.02.zz.02 line identification
s2hd_met:ei676	Member	Assets held as collateral (Third country branches) [280]
s2hd_met:ei677	Member	Nominated ECAI [280]
s2hd_met:ei678	Member	Currency of reinsurance recoverables
s2hd_met:ei679	Member	Non-Life Technical Provisions (Third country branches ECB add-on)
s2hd_met:ei680	Member	Nominated ECAI (SCR simplification included) [280]
s2hd_met:ei681	Member	Nominated ECAI (including Multiple ECAI) [280]
s2hd_met:ei682	Member	Nominated ECAI (including SCR simplification and multiple ECAI) [280]
s2md_met:ei2961	Metric	Metric: Assets held as collateral (Third country branches) [280]
s2md_met:ei2962	Metric	Metric: Nominated ECAI [280]
s2md_met:ei2963	Metric	Metric: Currency of reinsurance recoverables
s2md_met:ei2965	Metric	Metric: Non-Life Technical Provisions (Third country branches ECB add-on)
s2md_met:ei2966	Metric	Metric: Nominated ECAI (SCR simplification included) [280]
s2md_met:ei2967	Metric	Metric: Nominated ECAI (including Multiple ECAI) [280]
s2md_met:ei2968	Metric	Metric: Nominated ECAI (including SCR simplification and multiple ECAI) [280]
s2md_met:mi2955	Metric	Metric: Monetary|II/Standard formula or partial internal model or full internal model|BC/Solvency capital requirement [SCR]|UG/Before diversification effect|UH/Before diversification effect
s2md_met:mi2956	Metric	Metric: Monetary|II/Standard formula or partial internal model or full internal model|BC/Solvency capital requirement [SCR]|UG/Before diversification effect|UH/Diversification effect
s2md_met:ni2964	Metric	Metric: Decimal|DC/Number of underlying assets in contract
s2md_met:si1307	Metric	Metric: Progressive number of surplus/layer in program
s2md_met:ui1547	Metric	Metric: URI|TL/Identification code of entity
s2md_met:ui1548	Metric	Metric: URI|TL/Identification code of group
s2md_met:ui1607	Metric	Metric: URI|TL/Counterparty Code
s2md_met:ui1608	Metric	Metric: URI|OB/Unlimited guarantees and letters of credit received|TL/Code of provider of guarantee
s2md_met:ui1609	Metric	Metric: URI|OB/Unlimited guarantees and letters of credit given|TL/Code of receiver of guarantee

Type	Identifier	Change	Property	Old value	New value
BUSINESS_RULE	BusinessRuleIdentifier{code=BV981-1	MODIFIED	errorMessages	[BV981-1];[not(matches((t: SE.06.02.18.02, c: C0290, z: Z0001) reported as {$v2}, "^..((71)\|(75)\|(87)\|(88)\|(9.)\|(09))$"))];[not(isNull((t: SE.06.02.18.02, c: C0200, z: Z0001) reported as {$v1}))]	[BV981-1];[not(matches((t: SE.06.02.18.02, c: C0290, z: Z0001) reported as {$v2}, "^..((71)\|(75)\|(9.)\|(09))$"))];[not(isNull((t: SE.06.02.18.02, c: C0200, z: Z0001) reported as {$v1}))]
BUSINESS_RULE	BusinessRuleIdentifier{code=BV981-1	MODIFIED	generatedWhere	not(matches({t: SE.06.02.18.02, c: C0290, z: Z0001, seq: False, id: v2, f: solvency, fv: solvency2}, "^..((71)|(75)|(87)|(88)|(9.)|(09))$"))	not(matches({t: SE.06.02.18.02, c: C0290, z: Z0001, seq: False, id: v2, f: solvency, fv: solvency2}, "^..((71)|(75)|(9.)|(09))$"))
BUSINESS_RULE	BusinessRuleIdentifier{code=BV981-1	MODIFIED	labels	(en) SHORT_LABEL BV981: The item "Issuer name" in S.06.02 - List of assets should be reported for assets with CIC different from ' ##71', '##75', '##87', '##88' or '##9#'.	(en) SHORT_LABEL BV981: The item "Issuer name" in S.06.02 - List of assets should be reported for assets with CIC different from ' ##71', '##75' or '##9#'.
BUSINESS_RULE	BusinessRuleIdentifier{code=BV981-1	MODIFIED	where	not(matches($v2, "^..((71)\|(75)\|(87)\|(88)\|(9.)\|(09))$"))	not(matches($v2, "^..((71)\|(75)\|(9.)\|(09))$"))

- created automatically from the database
- divided into section resembling different parts of the model
- allows for identification of amended element and nature of change
- relates to both: dictionary and annotated templates
- validations changes can be traced from list of validations excel file

Generation of the EIOPA release package

EIOPA aim when changing the generation process of the release package was to:

- Increase the automation level of the process (lower probability of humane errors)
- Establish single point of truth for the model (have all deliverables derived from the single source)
- Provide business experts with more insight into the actual implementation of the validations, so that the list of validations will be self-explanatory
- Being able to create detailed change log for different components of the model

More information on the structure of deliverables can be found on EIOPA webpage https://www.eiopa.europa.eu/tools-and-data/supervisory-reporting-dpm-and-xbrl_en

Validations:

The Solvency II List of validations (updated on 19/06/2023)

The Validation syntax

Taxonomy:

The Solvency 2 XBRL taxonomy, the Solvency 2 XBRL taxonomy with external files, Solvency 2 XBRL instance examples

The XBRL taxonomy documentation

The XBRL Filing Rules

The Solvency II DPM database and the DPM database documentation

DRR- DPMstudio objectives, scope and expected benefits

Regulatory processes

Scope: Reporting templates, instructions, Q&As

- Technical methodological alignment on the construction of reporting obligations (codification, structure, etc.)
- Facilitate the work of the business experts when developing and regulatory reporting products
- Integrate business instructions and relevant QA within the information models

Modelling

Scope: implementation of DPM Refit for the ESAs, enabling of cross institutional metadata exchange

- Adaptation to DPM Refit to satisfy the foreseen demand respect to an increased amount and variety of data point modelling
- Enable the concurrent development/parallel team-work, a higher amount of granular data requests
- Syntactically and technologically integrate EBA and EIOPA business data dictionary with the dictionaries of other regulators

Validations and calculation rules

Scope: full life cycle of validations and calculations

- Manage the full life cycle of logical arithmetical expressions (VR and CR) from the initial formulation to the technical validation/calculation, from the business approval to the deployment into the data collection platform
- Enable easy portability/output of validations and transformation to different systems and formats

Data exchange formats

Scope: xBRL taxonomies, xBRL validations and supporting artefacts

- Automatization of the generation of all artefacts related with the exchange of information to overcome the technical fragility of the un-integrated existing solution
- Enable the new DPM Refit model while supporting the exiting formats to ensure a smooth transition phase

THANK YOU


eiopa
European Insurance and
Occupational Pensions Authority