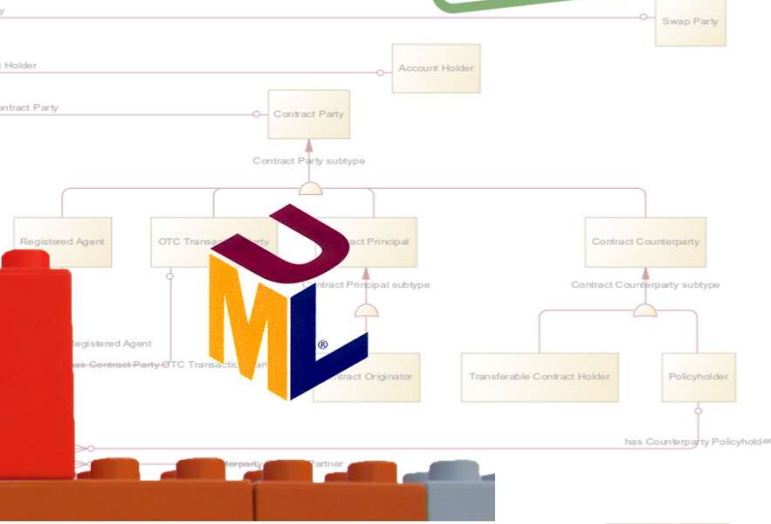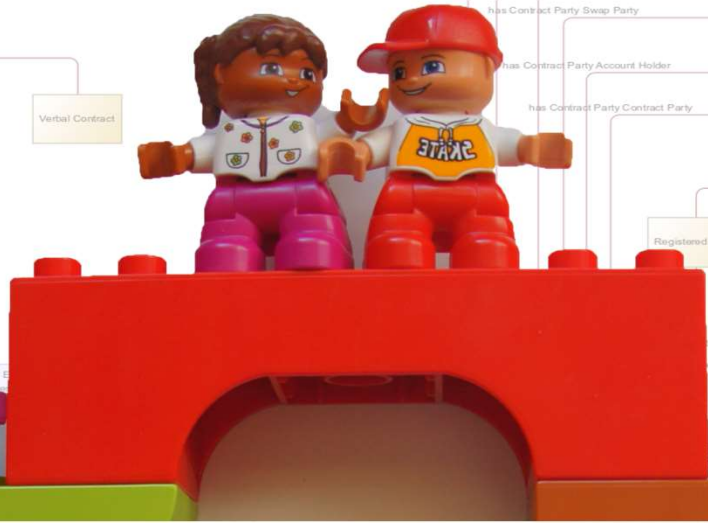# Financial Industry Business Unified Model (FIBUM)
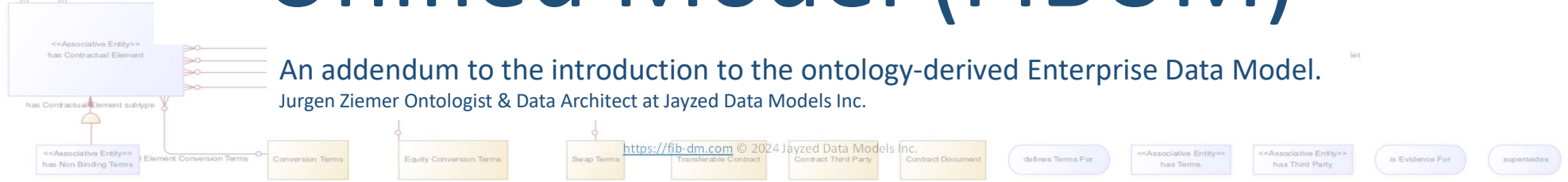
Semantics for Object Modelers,
Application Developers, and Data Architects with *"other"* data modeling tools

UPDATED

FIBO — Financial Industry Business Ontology

An addendum to the introduction to the ontology-derived Enterprise Data Model.

Jurgen Ziemer Ontologist & Data Architect at Jayzed Data Models Inc.

FIBO is the authoritative model of Financial Industry concepts, their definitions, and relations.

The Enterprise Data Management Council (EDMC) is the Global Association of more than 300 Financial Institutions (FI).

EDMC members developed the Financial Industry Business Ontology (FIBO), a business conceptual model that is now the authoritative reference standard.
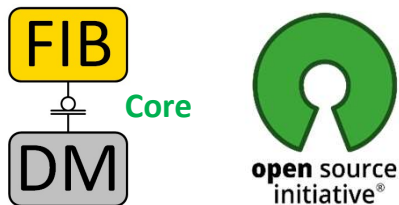
FIB-DM represents the FIBO as a Conceptual Data Model. The open-source core version includes over a thousand entities derived from the FIBO Foundation, Business Entities, and Finance Business & Commerce modules.

You work at a Financial Institution and have already embraced model-driven development, industry standards, and reference models.

Finance business stakeholder and expert with a working knowledge of Entity-Relationship and Ontology diagrams.

Data or **Application Architect** experienced in Enterprise Reference models. You may have used FIBO design patterns and definitions.

As an **Ontologist** with an in-depth understanding of the FIBO, you already use the reference ontology for your design and want to spread adaptation across your enterprise.
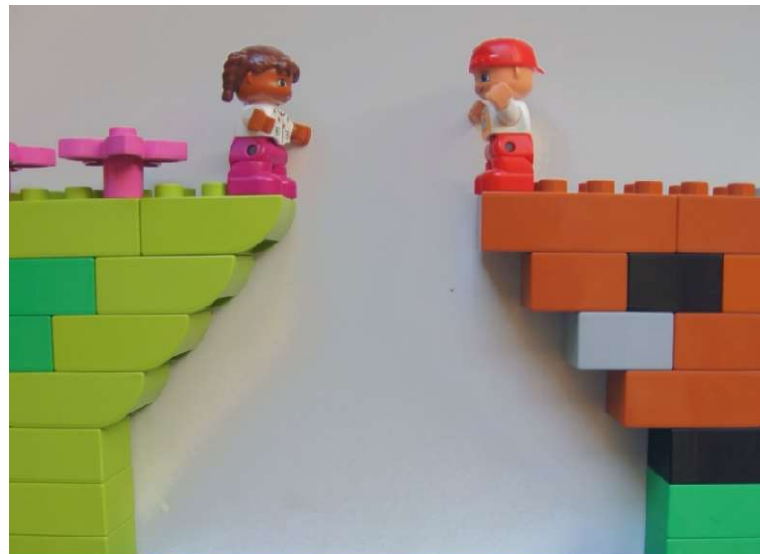
There are still gaps for enterprise-wide FIBO leverage.

Over 100 people downloaded the model in the first three weeks since launch.

Most users are from Financial Institution on PowerDesigner and ERWin data modeling tools.

FIB-DM is a PowerDesigner Conceptual Data Model (CDM).

Many downloaders with "other" data modeling tools cannot import the native PowerDesigner model file.

Object Modelers and Application Architects need a class model.

FIBUM is the bridge across the chasm.

**1075
UML classes**

Open Source
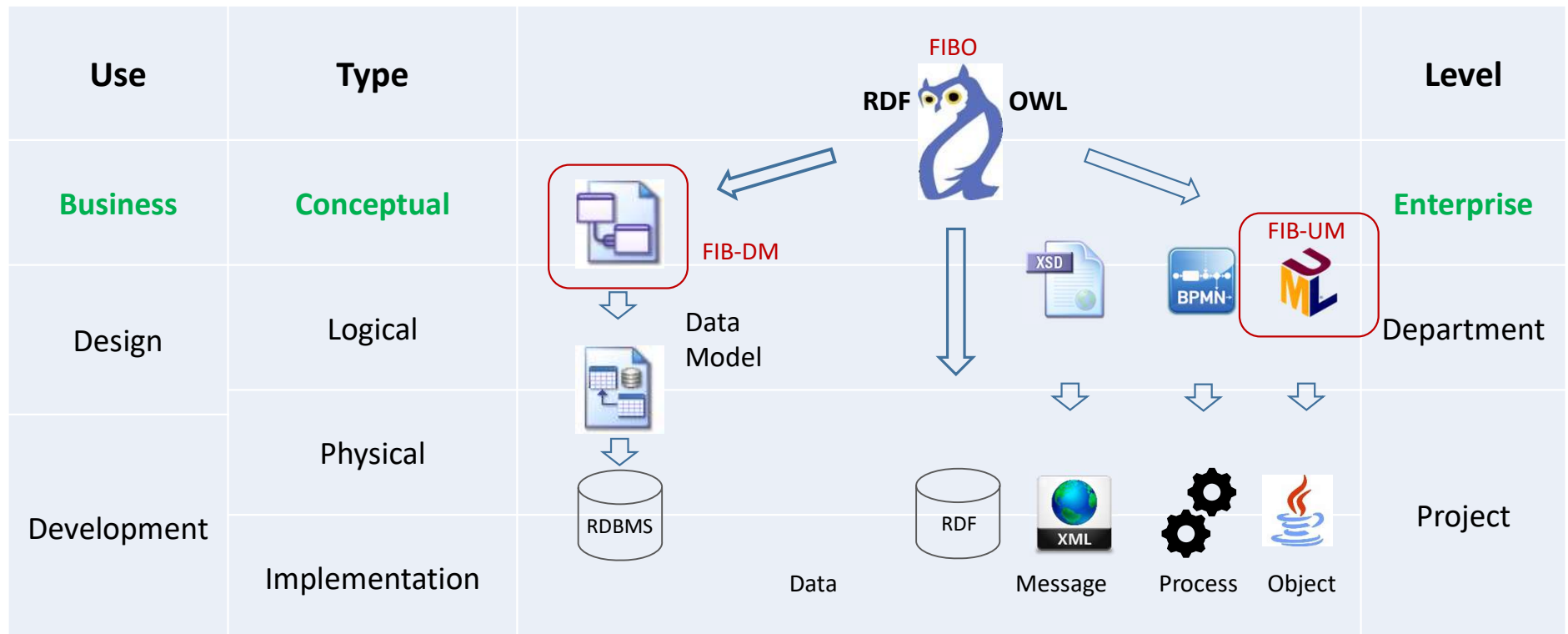
Semantic Model Driven Architecture

Use	Type		Level
Business	**Conceptual**	FIBO — RDF / OWL	**Enterprise**
Design	Logical	FIB-DM / Data Model / XSD / BPMN / FIB-UM	Department
Development	Physical	RDBMS	Project
	Implementation	Data / RDF / Message / Process / Object	

Download, install and a quick tour

This presentation is an addendum to the FIB-DM Introduction tutorial, covering specifics of the UML Model. Watch the complete data model introduction about the ontology to data model transformation and the model structure. https://fib-dm.com/data-model-resources/ or https://www.linkedin.com/showcase/fib-dm/

About the UML-XMI download file

The UML class model in Sparx Enterprise Data Architect.

Download FIBUM Core

GO to the FIB-DM download page,
https://fib-dm.com/data-model-download/,
and click on the download widget or menu
item.

Follow the download email instructions

Receive the email with the download links.

From: Service <service@fib-dm.com>
Sent: Sunday, August 18, 2019, 13:30
To: <esample@xyzbank.com>
Subject: FIB-DM download linkx

Thanks for your interest in the Financial Industry Business Data Model. Here are three download links:
PowerDesigner(CDM, conceptual data model)
PowerDesigner users download the CDM. Extract the model file from the ZIP archive and open the model.

PowerDesigner(LDM, logical data model)
For ERWin and other modeling tools with native PowerDesigner import, use the LDM.

Users of other modeling tools with XMI import click on the class model.

UML XMI (Class Model)
For other tools use FIBUM, UML-XMI import.
I appreciate your feedback and screenshots.

Data Architect

FIBUM XML file

Extract the
contents of the
ZIP directory.

The model file format is
UML 2.2 (XMI 2.1)

```xml
<?xml version="1.0" encoding="windows-1252"?>
<xmi:XMI xmi:version="2.1" xmlns:uml="http://schema.omg.org/spec/UML/2.2"
xmlns:xmi="http://schema.omg.org/spec/XMI/2.1"
xmlns:thecustomprofile="http://www.sparxsystems.com/profiles/thecustomprofile/1.0"
xmlns:CODT_Profile="http://www.sparxsystems.com/profiles/CODT_Profile/">
        <xmi:Documentation exporter="Enterprise Architect" exporterVersion="6.5"/>
        <uml:Model xmi:type="uml:Model" name="EA_Model">
            <packagedElement xmi:type="uml:Package"
xmi:id="EAPK_AE7CCFFF_AF53_42e6_BD23_FFF920D7F52E" name="Financial Industry Business Data Model
(Core)">
                <packagedElement xmi:type="uml:Class"
xmi:id="EAID_4CDE6C7F_2733_49b9_957B_49527431AE1E" name="fibo-be-corp-corp:BoardAgreement">
                    <generalization xmi:type="uml:Generalization"
xmi:id="EAID_240EA572_136E_4f13_A5FB_9B744B0FB5B0"
general="EAID_932A4CE4_3781_4271_9261_CC0A9673D3C8"/>
                </packagedElement>
                <packagedElement xmi:type="uml:Association"
xmi:id="EAID_442CC679_F540_45b9_AC02_BBED5BD82AB5" name="fibo-fnd-rel-rel:governs-fibo-be-corp-
corp:BoardAgreement">
```

Data Architect

Import the UML-XMI into the data modeling tool, here Sparx EA

We open Sparx EA and create a new project, "FIBUM import."

In the menu select Publish and click on Import XML, Import, Package from XML.

The UML-XMI diagrams are tool-specific. The FIBUM XMI does not contain diagrams.

Study at the FIB-DM diagram galleries to better understand the FIBO design. Then re-create your favorite and new diagrams in your modeling tool.
https://fib-dm.com/diagrams/
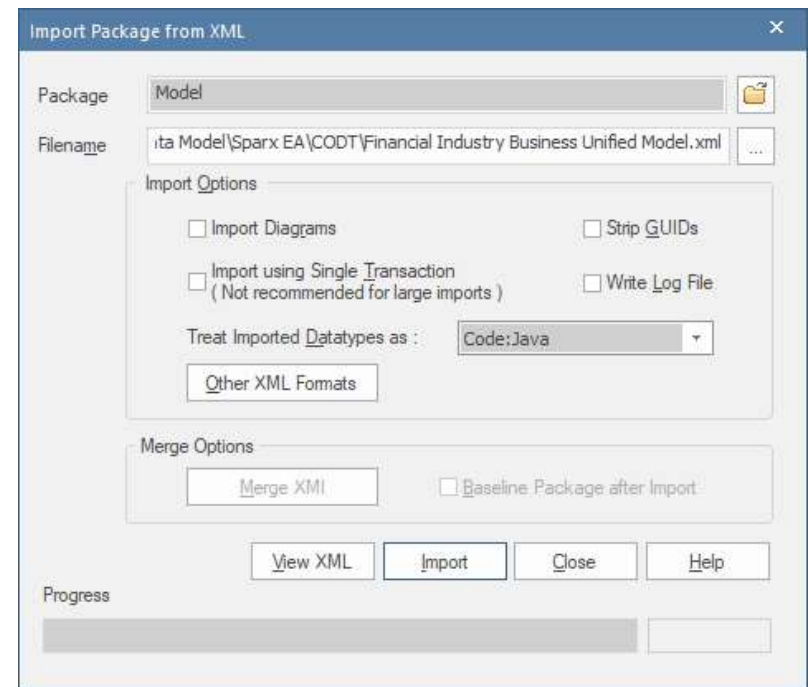
The FIBO in Sparx Enterprise Architect

The packages in the browser reflect the FIBO module structure.

Notice the CODT package and the stereotypes on packages and classes

Data Architect

CODT package and stereotypes

The patented (US12038939)
Configurable **O**ntology to **D**ata-model **T**ransformation is the process and technology that derives models from ontologies.
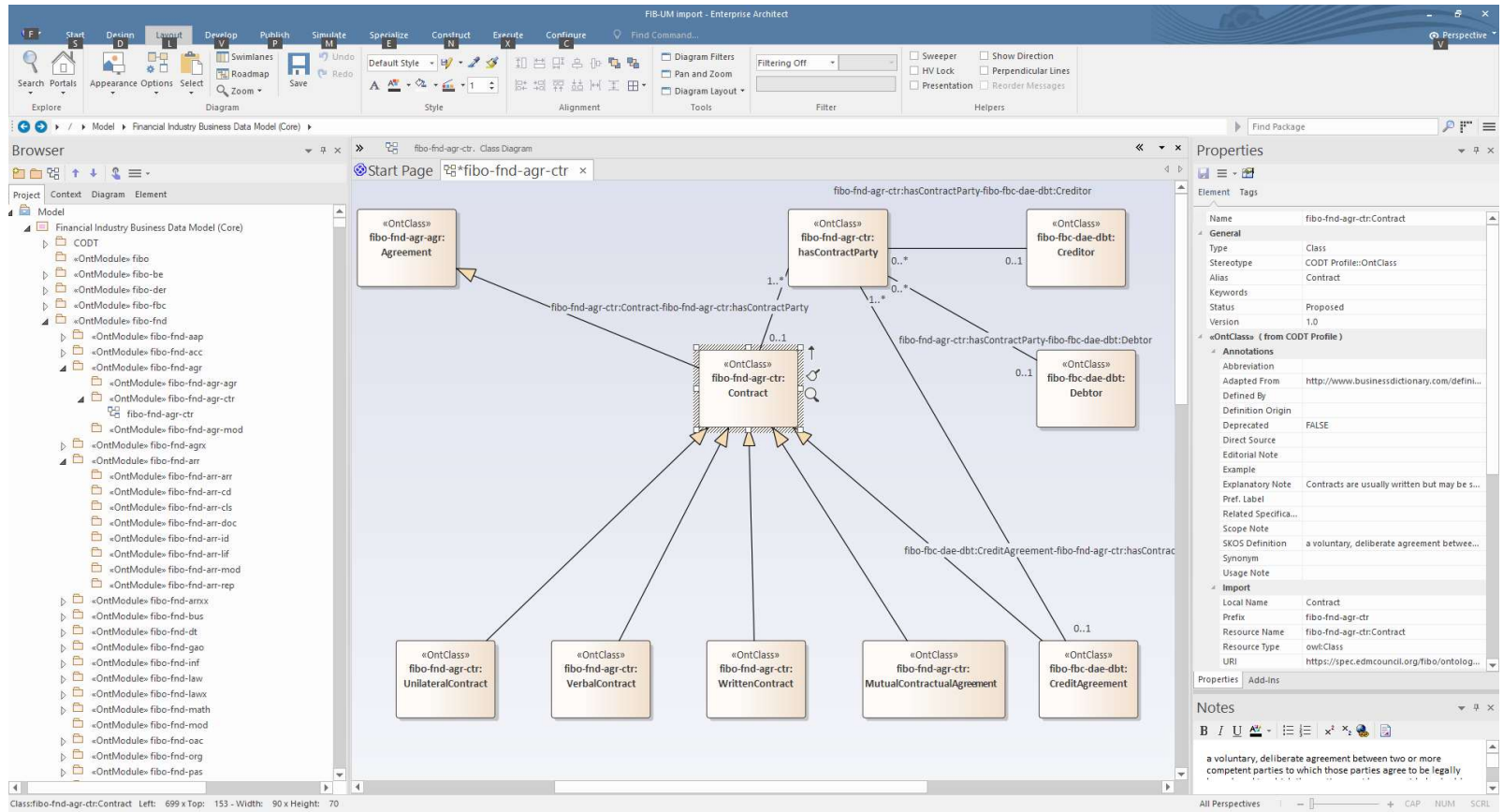
Tagged values are the UML equivalent to RDFS/OWL annotation properties, PowerDesigner extended attributes, and ERWin user-defined properties. In UML 2, you can only apply tagged values to model elements that use a stereotype with a tag definition.

The CODT profile defines stereotypes for classes and packages with tagged values for FIBO annotation properties, lineage, and semantics.

Data Architect
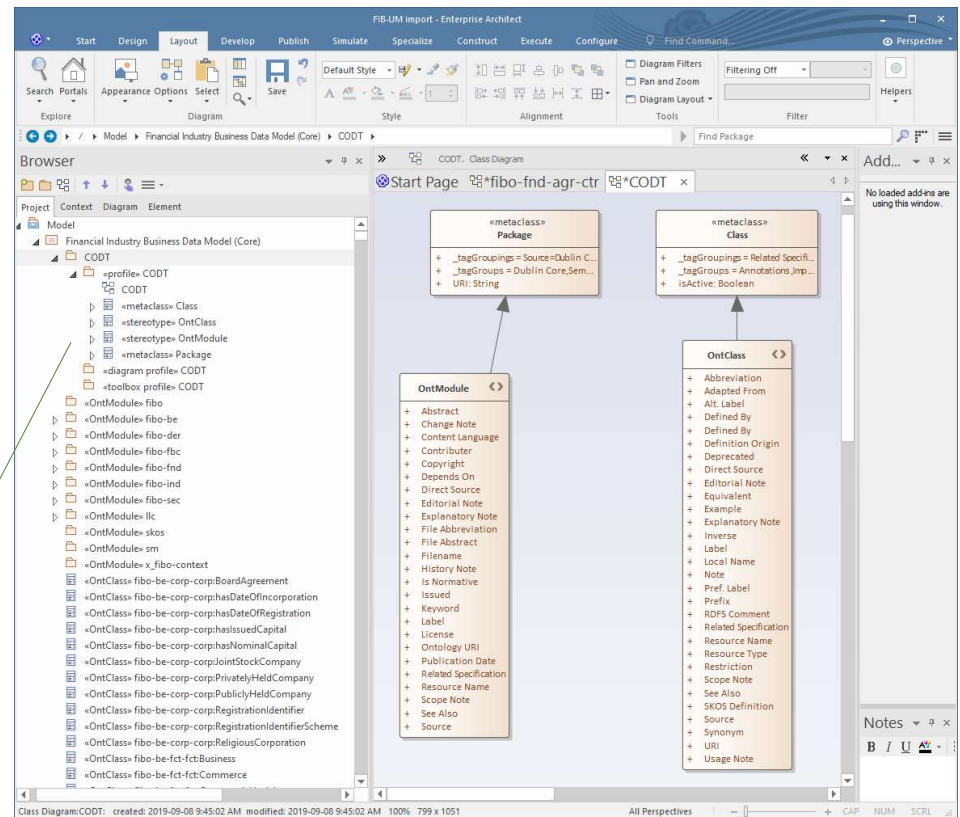
FIBUM Package properties

The Package name is the Prefix of the ontology module. The Stereotype is *OntModule* for all FIBO-derived packages. The Alias is the logical English name.

The FIBO documentation uses RDFS/OWL annotation properties:

- Dublin Core
  https://www.dublincore.org/specifications/dublin-core/dcmi-terms/
- Semantic Metadata
  http://www.omg.org/techprocess/ab/SpecificationMetadata/
- Resource Description Framework Schema
  http://www.w3.org/2000/01/rdf-schema
- Simple Knowledge Organization System
  https://www.w3.org/2004/02/skos/
- FIBO and CODT defined annotation properties
  - FIBO Explanatory note
  - Ontology URI the lineage, traceability to the source ontology module.
  - Resource Name, the module code, or becomes the Package Name.

Properties

Element Tags

Name	fibo-fnd-agr-ctr
General	
Type	Package
Stereotype	CODT Profile::OntModule
Alias	Contracts
Keywords	
Status	Proposed
Version	1.0
«OntModule» (from CODT Profile)	
Dublin Core	
Abstract	This ontology defines concepts relating to contracts, for use in other FI...
Issued	
License	https://jayzed.com/jayzed-source-code-license-agreement/https://open...
Source	
Semantic Metadata	
Content Language	http://www.w3.org/standards/techs/owl#w3c_all
Contributer	
Copyright	Copyright © 2019 Jayzed Data Models Inc. Copyright (c)2018 Object Ma...
Depends On	https://spec.edmcouncil.org/fibo/ontology/FND/Agreements/Agreemen...
Direct Source	
File Abbreviation	fibo-fnd-agr-ctr
File Abstract	
Filename	Contracts.rdf
Is Normative	False
Keyword	
Publication Date	
Related Specifica...	
RDFS	
Label	Contracts Ontology
See Also	
SKOS	
Change Note	The https://spec.edmcouncil.org/fibo/ontology/FND/Agreements/Contr...
Editorial Note	
History Note	
Scope Note	
FIBO	
Explanatory Note	
Ontology URI	https://spec.edmcouncil.org/fibo/ontology/FND/Agreements/Contracts/
Resource Name	fibo-fnd-agr-ctr

FIBUM Class properties

The Class Name derived from the ontology class `Prefix:Localname`. The value is the same as the FIB-DM Entity Code.
The Alias is the logical English name, the same value as the FIB-DM Name.
All ontology derived classes have the stereotype *OntClass*.

The FIBO documentation derived from RDFS/OWL annotation properties.

The group of Import tags provides lineage and traceability to the source ontology. We use the Resource Name (`Prefix:Localname`) for the UML Class Name. The URI is the link to the original FIBO class.

The Ontology group has semantic expressions beyond the UML Class model. Please refer to the FIB-DM tutorial for details.

Properties

Element   Tags

Name	fibo-fnd-agr-ctr:ContractCounterparty
General	
Type	Class
Stereotype	CODT Profile::OntClass
Alias	Contract Counterparty
Keywords	
Status	Proposed
Version	1.0
«OntClass» (from CODT Profile)	
Annotations	
Abbreviation	
Adapted From	
Alt. Label	
Defined By	
Definition Origin	
Deprecated	FALSE
Direct Source	
Editorial Note	The parent concept of ContractParty is the one to use when no particip...
Example	
Explanatory Note	Where no party is identified as the principal to a contract, both or all p...
Pref. Label	
RDFS Comment	
Related Specifica...	
Scope Note	
See Also	
SKOS Definition	in the event that a contract identifies either party to that contract as be...
Synonym	
Usage Note	
Import	
Local Name	ContractCounterparty
Prefix	fibo-fnd-agr-ctr
Resource Name	fibo-fnd-agr-ctr:ContractCounterparty
Resource Type	owl:Class
URI	https://spec.edmcouncil.org/fibo/ontology/FND/Agreements/Contracts...
Ontology	
Equivalent	
Inverse	
Restriction	

Data Architect

From FIBO to FIB-DM, to FIBUM – how does CODT work?

The Configurable Ontology to Data-Model Transformation is basic ETL.

We extract metadata from the source ontology, transform ontology metadata into conceptual data model metadata, and load into the data modeling tool, PowerDesigner.

The extract process runs SPARQL on the ontology to get the metadata. PowerDesigner imports MS-Excel workbooks. The Transformation in between is a 2-step process using the patent-pending *Metadata Sets*.
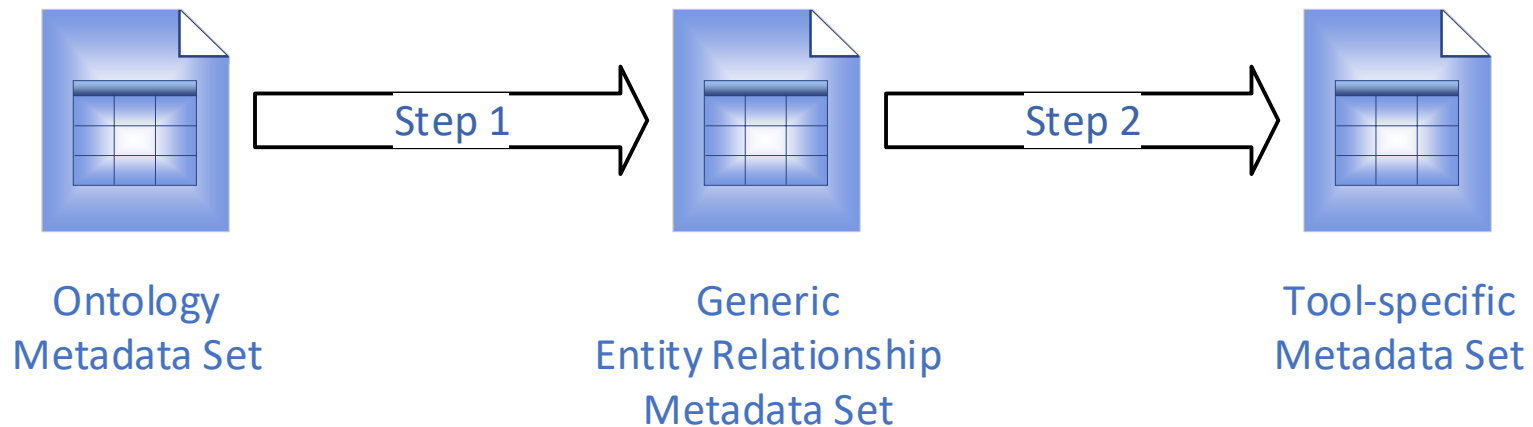
Data Architect   Ontologist

The CODT Metadata Sets.

The Extract process populates the Ontology Metadata Sets for classes, object-, data properties, and annotations.

Ontology Metadata Set → Step 1 → **Generic Entity Relationship Metadata Set** → Step 2 → **Tool-specific Metadata Set**

Step one transforms the ontology metadata and populates the generic ER representation. The Tool-specific metadata set is in PowerDesigner format. We serialize as MS-Excel, and directly load it into the tool. Step two is a simple conversion from generic ER to PowerDesigner objects, properties, and extended attributes.
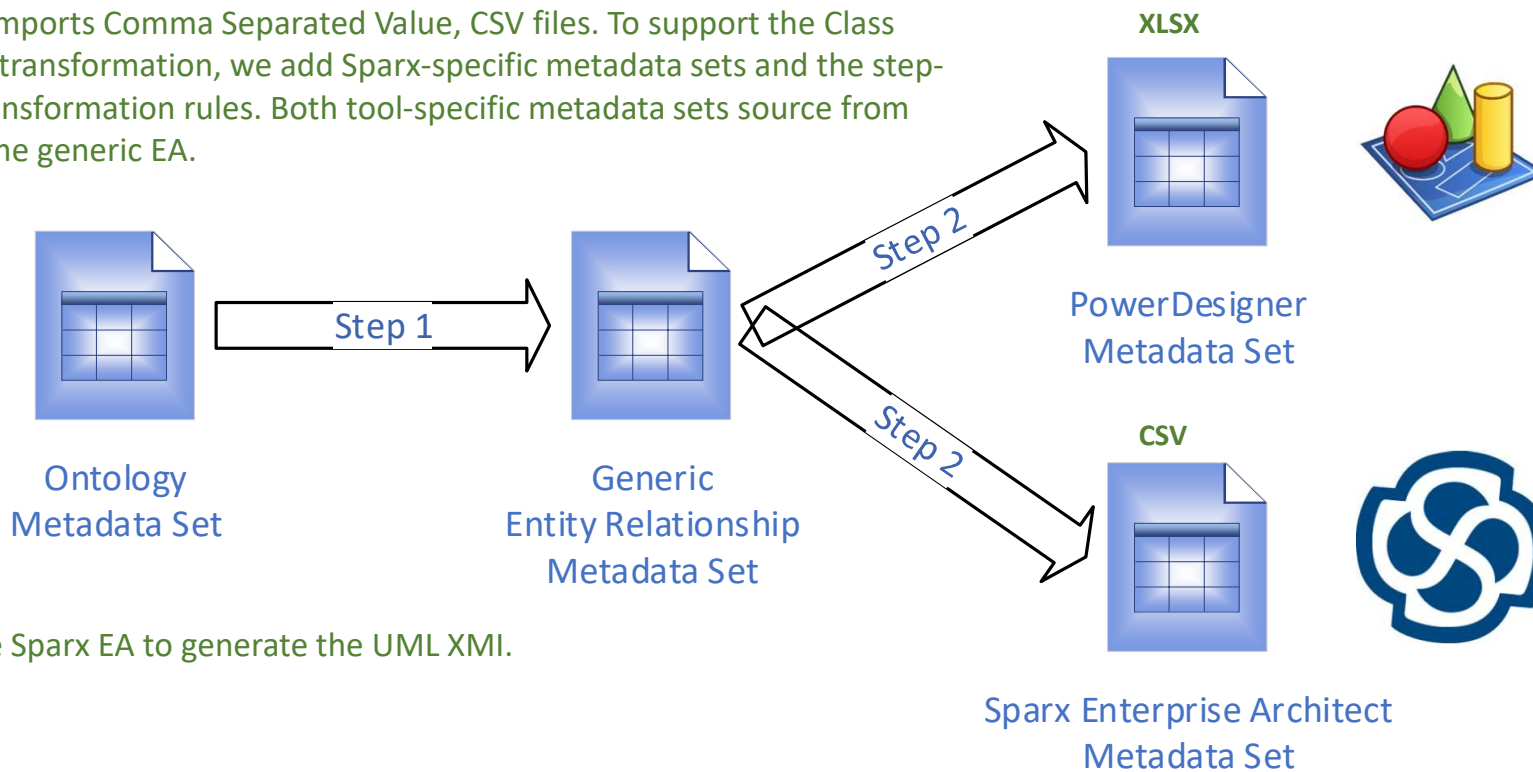
Data Architect   Ontologist

Adding tool-specific metadata sets for Sparx EA

Sparx imports Comma Separated Value, CSV files. To support the Class Model transformation, we add Sparx-specific metadata sets and the step-two transformation rules. Both tool-specific metadata sets source from the same generic EA.

XLSX

Ontology
Metadata Set

Step 1

Generic
Entity Relationship
Metadata Set

Step 2

PowerDesigner
Metadata Set

Step 2

CSV

We use Sparx EA to generate the UML XMI.

Sparx Enterprise Architect
Metadata Set

Data Architect

Ontologist

Thanks for your interest, enjoy the model!

Good luck importing the FIBUM into your modeling tool and leveraging the FIBO in your organization.

Please
- Let me know of successful migration or issues
- Share your screenshots for a future compatible tools gallery.
- Huge models can be overwhelming. Contact me with questions about the FIBO content and design patterns.

jziemer@jayzed.com or LinkedIn posts and https://www.linkedin.com/showcase/fib-dm/

Holders of the Extended model license are funding the Open Source Core.
Hence the Masterfile is PowerDesigner. Commercial interest in the UML model and other less widely used development tools drives more support for variations.

FIB Core **UM** the FIBO in UML

Financial Industry Business Ontology

https://fib-dm.com/data-model-download/