

An overview and introduction to Semantic Enterprise Information Architecture and Model-Driven Development with the industry-standard ontology at the apex.



XLB embraces RDF/OWL and the FIBO



XLB has a Semantic Technologies Center of Excellence (COE) and RDF (Triple) Stores in Production



XLB uses and supports the development of the industrystandard ontology.



XLB downloaded and evaluated the FIBO data model.



The CODT patent (US12038939) enables full disclosure of the transformation technology.



Semantic Center of Excellence (COE) challenges

XLB already implemented, extended, and customized industry-standard ontology.

XLB has highly qualified ontologists and data scientists.





However, 95% of the bank still runs on relational databases, using data models

Data Architects have the FIBO Data Model but can't leverage the work of their Semantic CEO colleagues.

The risk is that Semantic implementations become yet another data silo, using a different language than the rest of the organization, impeding integration.



Finance key point

The Vision:

Semantic Enterprise Information Architecture (SEIA)





Finance key point

The way:

Semantic Model-Driven Development (SMMD)





Asset size is a poor proxy for semantic sophistication

Semantics for Data Architects, the name of the first FIB-DM educations resource, became a catchphrase.

FIB-DM on the EDMC website was for financial institutions with less than \$200 billion in assets, hence Semantics for Midsize Banks.

However, some financial institutions, hedge funds, for example, are very advanced. Many midsize banks on FIB-DM are now building out ontology capabilities.

CODT is for Financial Institutions who are using and extending the FIBO, many but not all are extra-large banks.







Intended Audience & POC Team



Finance, management, or business stakeholder who has a working knowledge of Entity-Relationship and Ontology diagrams. You are authorized to sign non-disclosure and license agreements.



Ontologist with an in-depth understanding of the FIBO and in-house ontologies. You want to spread adaptation across your enterprise. You are well-versed in RDF/OWL and SPARQL.



Data Architect, with experience in Enterprise Reference models. You evaluated and want the industry-standard, FIB-DM. You are an expert in your Data Modeling Tool and its import functionality.



Developer / MS-Excel Power User experienced in VBA, Power Query, and the M-Language.



Inventor and Presenter



Jurgen Ziemer has 20 years of industry experience as a data architect and ontologist at leading Financial Institutions and service providers.

- Seven years as an IBM Software Group Consultant for the Banking and Financial Markets Data Warehouse (BFMDW) model at 45 banks in North America, Europe, and Asia.
- Four years were implementing BFMDW at Citi and Deutsche Bank.
- Contributor, reviewer, and speaker at FIBO conferences



Jayzed Data Models Inc. is a US consulting company incorporated in 1999.

Jayzed holds the FIB-DM copyrights and is the designated assignee of the CODT Patent.





Origins of CODT and FIB-DM

NY Bank needs Schema for a new Security Master System, trying to leverage FIBO for Logical Data Model.

Challenge: Data Architects are not familiar with RDF/OWL and have no experience in Protégé or Topbraid Workaround: Ontologist writes SPARQL queries to extract metadata into MS-Excel spreadsheets.

CT AIM with Hedge Fund Ontology SEC Form PF assessments needs a relational platform

Challenge: Converting operational ontology of some 200 FIBO and hedge fund specific classes Workaround: Manual transcription of graphs into ERWin diagrams. Some metadata extract and import.

Existing tooling chokes on very large ontologies and does not derive a useful Data Model.

Ontologies and Data Architects copy and paste manually.

So, I developed a better transformation and FIBO data model.





Atlantic is the way to Semantic EIA and MDD







Finance key point

FIBO is more than a Knowledge Graph



"The Financial Industry Business Ontology (FIBO) is a **business conceptual model** developed by our members of how all financial instruments, business entities, and processes work in the financial industry." (https://edmcouncil.org/general/custom.asp?page=aboutfiboreview)

The Council and its members correctly decided to define the business conceptual model in Ontology Web Language (OWL), because of the superior semantics of the notation.

FIBO Conceptualization and Relations are **fully applicable for** lower-semantic taxonomies, concept maps, object-, and **data models**. FIB-DM is a perfect conceptual data model. (https://fib-dm.com/ontology-class-and-data-model-entity-hierarchy/ and https://fib-dm.com/ontology-object-property-data-model-associative-entities/)



Finance key point

The FIBO is superior to vendor data models



Almost six hundred years ago, Robert II d'Uzès proclaimed Charles VII King of France. Yet the *Involved Party* is still an ultimate supertype in numerous reference models and databases.

The FIBO breaks up that comingled entity into two fundamental concepts, the *Autonomous Agent* (person, legal entity) and *Thing in Role* (customer, employee, broker).



The 15 fundamental business concepts



The fifteen **Fundamental Business Concepts** are ultimate supertypes in the FIBO Data model.

80% of FIB-DM entities are subtypes of the 15 concepts.

EDMC support and 3,500 data model downloads

"Many midsize EDMC members want to leverage the industry standard, but don't have ontology tooling, databases, and the human expertise inhouse yet." (https://spec.edmcouncil.org/fibo/FIB-DM)

With FIB-DM, Data Architects no longer manually transcribe ontology graphs and copy and paste definitions. Three thousand five hundred users downloaded the Open-Source version of the FIBO Data Model.

However, even with FIB-DM, Architects at larger Financial Institutions must still c&p their FIBO customizations and extensions manually.





Finance key point

Ontology-derived Data Model



Current tooling imports are not fit for purpose

Data Modeling tolls, Sparx EA and IBM IDA have a rudimentary import for RDF/OWL files. The imports are one-click blackbox without options and diagnostics.



Datatype properties become classes

Class restrictions become anonymous pseudo classes

No import of annotation properties





The parsing approach is not scalable

Traditional transformations parse ontology files. They encounter elements of the ontology and create elements of the data model as they process the source files. The parsing approach reaches its limits with very large ontologies like the FIBO.

Per default, ontology object properties transform into data model relationships. This transformation loses Metadata for object properties with particular design patterns.

XLB and other large Financial Institution developed rudimentary transformations.

Compare FIB-DM to a vendor or in-house transformations of the FIBO and see the difference!



License the technology that created the industry-standard rather than DIY!



Ontolog

Outcome of the transformation: Package Properties

	Package Properties - Agreements (AGR) (fibo-fnd-agr-agr)	×
The Package Name is the rightmost string in the	General Definition Extended Attributes	
ontology namespace.	Name: Agreements (AGR)	=
	Code: [fibo-fnd-agr-agr	=
CODT transforms the ontology prefix as theunique code of the package.	Comment: This ontology defines concepts for agreements, for use in other ontology element Agreements as defined here are the actual agreements between parties, and this ontology is intended to be referred to in conjunction with the contracts ontology defines the actual contracts which formalize such agreements. The concepts of agreement and contract are intended to be kept distinct in the FIBO ontologies, t	s. vhich hat is
Note: All ontology classes, properties with the prefix fibo-fnd-agr-agr become model	neither is intended to be regarded as a sub type of the other.	
objects of the Agreements package.	Stereotype:	~
	Default diagram: 📆 Agreements - Agreements	~ 🖪
	<u> </u>	
The URI is the Uniform Resource Identifier of the	Keywords:	
ontology. It is a traceability link to the source of	URI: https://spec.edmcouncil.org/fibo/ontology/FND/Agreements/Agreements/	
-	More >> 🖹 🔻 OK Cancel Apply	Help

The second part of this overview shows how CODT extracts properties, transforms and add them to the data model.





Package extended attributes

The Extended Attributes tab has a list of ontology annotations.

The default transformation configuration uses the Abstract to populate the Package Comment.

Extended attributes of Data Type Text are multi-line. For example, the Copyright attribute lists the Object Management Group and EDM Council copyrights. The License attribute lists the FIBO MIT license besides Jayzed and GPL-3.0.

	Name	Data Type	Value
ř.	Abstract	(Text)	This ontology defines concepts for agreements, for use in other ontology elements. Agreements as defined here
	Address for Comme	(String)	
	Change Note	(Text)	The https://spec.edmcouncil.org/fibo/ontology/FND/Agreements/Agreement.rdf version of the ontology was m
	Content Language	(String)	http://www.w3.org/standards/techs/owl#w3c_all
	Contributer	(String)	
+	Copyright (Text)		Copyright © 2019 Jayzed Data Models Inc.
	Depends On	(Text)	https://spec.edmcouncil.org/fibo/ontology/FND/Parties/Roles/
	Direct Source	(Text)	
	Editorial Note	(String)	
)	Explanatory Note	(String)	
1	File Abbreviation	(String)	fibo-fnd-agr-agr
2	Filename	(String)	Agreements.rdf
3	History Note	(String)	
4	Is Normative	(Boolean)	
5	Issued	(Date)	
			>



Data Architect



Entity properties

The Name is the ontology class *Localname*, converted from Camel Case to LDM naming convention (capitalized with space between words).

The Code transforms from the ontology class *Prefix*: *Localname*.

The Comment populates from the class annotation RDFS comment and SKOS definition.

There are two particular tabs for ontology derived data models, Annotations and Lineage.

Related D	iagrams	Extended Attrib	outes	Dependencies	Trace	ability Links	Versio	n Info
General	Attributes	Data Protection	Identifiers	Mapping	Annotations	Lineage	Definition	Ru
<u>N</u> ame:	Payment (Obligation						
<u>C</u> ode:	fibo-fnd-pa	as-psch:PaymentObli	gation					
Comment:	to the tem	ns stated in a contrac	t sum or m	oney, or agree to			nouning), doo	or carr
Comment:	to the tem	ns stated in a contrac	t	oney, or agree to			inon miggi doo	or cirri
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Stereotype: Number: Parent entity	to the tem	ent	t <u>G</u> enerate					





Entity annotations

FIBO has extensive documentation captured in annotation properties.

The chart shows the number of classes with annotated documentation.



Related Diagrams	Extended Attrib	utes	Dependencies	Trace	ability Links	Versio	on Info
General Attributes	Data Protection	Identifiers	Mapping	Annotations	Lineage	Definition	Rule
Source:							
Abbreviation:							
Adapted From:	Barron's Dictionary of	Business and	Economics Terr	ms, Fifth Edition,	2012		
Definition Origin:							
Explanatory Note:							
Synonym:							
<u>U</u> sage Note:							
	Deprecated						
RDFS Comment:	-						
De <u>fi</u> ned By:							
<u>L</u> abel:	payment obligation						
See Als <u>o</u> :							
Alt. La <u>b</u> el:							
SKOS Definition:	a legally enforceable o	duty to pay a	sum of money, or	r agree to do sor	mething (or no	t to do somet	ning), i
Editorial Note:							
Example:	the duty of a borrower	to repay a lo	an, a <mark>nd t</mark> he legal	right of a lende	r <mark>to e</mark> nforce p	ayment	
<u>N</u> ote:							
Pref_Label:							
S <u>c</u> ope Note:							
Dir <u>e</u> ct Source:							
Related Specification:							



Ont Ont

Entity lineage

The Lineage tab captures ontology metadata of the source class. The extended attributes provide traceability into the ontology and preserve semantics beyond the entity-relationship model.

The Resource Name is class *Prefix* and *Localname*. FIB-DM uses the resource name as the entity code, but you can generate your codes in the modeling tool.

The Localname is the rightmost string in the Resource Name and URI.

The Prefix is an abbreviation of the URI defined in the ontology.

The Uniform Resource Identifier of the class is a link to the FIBO source ontology.

Restriction and Equivalent class axioms formulate OWL semantics.

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Complex FIBO patterns (e.g. sub-properties) ...



Require a sophisticated data model transformation



See the article of issues resolved for many-to-many relationships, closure axioms, hierarchies, incomplete and inverse object properties. (<u>https://fib-dm.com/ontology-object-property-data-model-associative-entities/</u>)



FIBO, vendor and in-house models for SEIA





DAs, merge in your vendor and inhouse models





Adhere to the industry-standard 15 concepts and their subtype hierarchies Adopt the FIBO/FIB-DM names and definitions

- 1. Identify indirect entity matches, synonyms
- 2. Identify direct entity matches, beware of homonyms
- 3. Merge entities that are not already in FIB-DM, identify the appropriate supertype.
- 4. Merge attributes from your vendor model.

Note that the FIBO Data Model correctly defines Financial Instruments as a subtype of the Contract, an Agreement – not a Product as some Vendor model do.



Robert's advice

The concept maps, FIB-CM, link to the data model.



https://fib-dm.com/semantics-for-finance-users/



FIB-DM General Public 3.0 vs. Customer License

Торіс	Detail	Your current General Public License 3.0	Your upgrade Jayzed Customer License		
FIBO Release		2018/Q4	2024/Q2		
Domain		Public	Private		
Distribution	Original FIB-DM	encouraged	prohibited		
	Your FIB-DM derived works	Open Source	Private, not applicable		
Number of Entities		1029	3,074		
Normative	Foundation	√	1		
	Business Entities	1	1		
	Finance, Business & Commerce	1	1		
	Securities	x	1		
	Derivatives	X	√		
	Indexes & Indicators	X	✓		
Informative	LOANS	Х	\checkmark		
	Funds	X	1		
	Corporate Actions	X	✓		
	Market Data	X	\checkmark		
	Business Processes	X	√		
Resources	PowerPoints	X	1		
	Videos	X	1		
	Whitepapers	X	1		

Open Source license requires you, to **copyleft**, that is to license your derived models to the **public**.

With a commercial license, you keep FIB-DM extensions **private**.

Likewise, for the public, all Education materials are subject to copyright

With a commercial license, you are **free to modify, translate, edit, and even lift off images and diagrams** as long as they remain within your organization.



Finance key point

Financial Industry Business Data Model - summary

- Most comprehensive Enterprise Reference model with 3,074 entities
- Superior Design of a Semantic Data Model
- Extensive documentation of the industry-standard ontology
- Full lineage to the ontology
- Semantic Enterprise Information Architecture
 - Same names, definitions, and design patterns across the enterprise
 - The ontology at the apex includes business-friendly concept maps, derived data, and object models.
 - Unifies semantic and conventional data management



Transparency for your FIB-DM evaluation





Finance key point

Version 1.0 Atlantic: CODT meets MS-PowerQuery

ATLANTIC CODT





MS-Excel, PowerQuery, and the M-language



Data Architect

Contologis

The patented technology that created the FIBO Data Model



The old OWL file-parsing-approach doesn't produce usable data models. It can't cope with very large ontologies.

The new ETL approach creates high-quality models. The technology is fully scalable and configurable.



Metadata-Sets (MDS) are keyed records holding properties for all objects in the model. (E.g., all 4,568 entities)

- Ontology metadata sets hold the record **extracted** from the ontology platform
- Entity-Relationship metadata sets **transform** ontology into ER.
- PowerDesigner (or another tool) metadata sets are ready to **load** into the data modeling tool.



Metadata sets are the novel approach.



Metadata Sets are metadata stored in data sets.

Similar to system tables on a relational database, CODT metadata sets are isomorphic representations of ontology, entity-relationship, and data modeling tool-specific metadata.

The transformation is a two-step process:

The same generic ER Metadata Set is the source for both PowerDesigner and Sparx EA metadata sets.



Sector Ontolo

Ontology class to data model entity – a journey

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System overview

Microsoft Excel is the tool of choice to view and analyze tabular data, and every data architect has Excel and knows how to use it.

Hence, MS-Excel is not only a fast prototyping tool for the CODT Metadata Sets but also makes the transformation easy to deploy.

Component	Metadata Set	Excel Workbook
Extraction	Ontology Metadata	Ontology MDS.xlsx
T ransformation	Generic ER Metadata	Entity Relationship MDS.xlsx
Load	PowerDesigner	PowerDesigner MDS.xlsx

Any platform and programming language can implement the system, metadata sets, and method.



Ontologist



CODT patent drawing FIG.2, System (in color, numerals removed for clarity)

Extraction with SPARQL queries

<pre># OwL Classes.rq SELECT ?class ?qname ?namespace ?skos_definition WHERE {</pre>	The SPARQL query selects Class, qualified name, namespace, and definition, filtering out
BIND(afn:namespace(?class) AS ?namespace)	unnamed classes.
FILTER (smf:isBound(?namespace)).	
BIND (smf:qname(?class) AS ?qname) .	
<pre>OPTIONAL { ?class skos:definition ?skos_definition} FILTER (?class NOT IN (owl:Nothing, owl:Thing))</pre>	The result set is a CSV file
}	
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Ontologist

Extraction: CSV result set into Ontology MDS

The ontology metadata workbook imports the raw extract and performs simple format conversions from the raw result set.

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We have the Class, Qualified Name, Namespace, the CODT configured main descriptive annotation property, Prefix, Localname, and FIBO URI. Other Excel tabs, ontology metadata sets for Object Properties, Domain, Range, Sub-class, and Sub-property.



Ontologist

Excel Power Queries extract into the MDS



Get Data opens Excel Power Query

The Metadata Sets are selfpopulating - every worksheet has

We can refresh (=load) individual or

The Queries & Connections pane shows the load status (any errors) and the number of records in the

Transparent transformation rules

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Ontolog

4GL Query and transformation language

The data source is the raw SPARQL query result set.

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Transformation (1): Entity-Relationship MDS

Entity Code is the Class QName

A Formulas transforms the Localname into an entity Name per the Naming convention: =UnCamel([@Localname]) Prefix and Localname split the code

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A Power Query with the Ontology MDS as its source populates metadata.



Ontologist

Transformation (2): Tool-specific MDS

The second transformation step converts the generic Entity-Relationship into a data modeling tool-specific metadata set. In this case, PowerDesigner can directly import this MDS.

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For entities, the transformation is a simple copy of the Entity-Relationship MDS.



Load: The data modeling tool imports the MDS





Stacked queries and ETL master the complexity

Query Dependencies





CODT Excel Power Query Statistics

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The MDS folder holds queries that provide the interface for metadata sets in the next transformation step.

	Interface	Intermediate	Total
Ontology	21	20	41
Entity-Relationship	24	58	82
Data Model	23	4	27
		Total	150

Plus 18 SPARQL query templates

CODT is a white box, an open book. The Excel version software fully discloses all worksheets, queries, and VBA code.

New users and operators can generate with a single click, using default configuration settings. As a Data Architect, you use CODT as an ETL and development platform, diagnosing results and tweaking transformation rules for your modeling and naming standards.

VBA developers may secure the data sheets, fully automate Extract and Load, or port the application.



ata Architect

CODT Embodiments

The CODT license includes the right to use protected intellectual property, metadata sets, and algorithms. For full production SEIA, you can automate interfaces, and encode the patented embodiments below.

Implementation Embodiments									
	Ontology Source		Tra	nsformation Syst	em	Data Model			
				Application	User	Data Model	Modeling	Tool	
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Finance key point

Reverse mode embodiment, claims 10 & 16

The CODT Metadata Sets are bi-directional. CODT can reverse-engineer ontologies from Data Models!





Reverse example: Extract from

PowerDesigner



Our example is Logical Data Model created from the New York Stock Exchange's OpenMAMA messaging API.

The PowerDesigner Entity list report has Code, Name, and Comment. The PowerDesigner MDS sources the list report

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Transform in the Entity-Relationship MDS

The Metadata Set populates from the PowerDesigner Entity MDS

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Prefix and URI are configuration settings matching the designated prefix and namespace of the ontology The Entity Name transforms to Localname with a Camel Code string function The Resource Name is a concatenation of Prefix, delimiter, and Localname



Finance key point

Load into ontology

A query populates the Class metadata set from the Entity MDS

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4 fib-omds:Quote https://fib-dm.com/OpenMDS/Quote	The most current bid or ask prices and quantities at which the instruments quote shows the price and quantity at which a current buyer is willing to pu the ask shows what a current participant is willing to sell the instruments f	can be bought or sold. The bid urchase the instruments, while or.
5 fib-omds:Referential https://fib-dm.com/OpenMDS/Referential	Represents standing data such as symbol, commodity, and exchange inform information about the contract terms. Prior trading period closing/settlem disseminated in this event type. Typically this represents static data.	nation and any pertinent Connection only. ent prices can also be T_Class 6 rows loaded.
6 fib-omds:SecurityStatus https://fib-dm.com/OpenMDS/SecurityStat	Data that indicates the current market trading condition of an individual se the security is suspended. This identifies phase transitions in the venue's r	curity, for example, if trading in market model. T_skos_definition 6 rows loaded.
7 fib-omds:Trade https://fib-dm.com/OpenMDS/Trade	Information that belongs to a transaction that involves the selling and purc	hasing of a tradable instrument
Class T_class T_skos_definition (+)	÷ [4]	· · · · · · · · · · · · · · · · · · ·
Ready 🐻		Count: 7 🔠 🗉 — — + 100%

Triple, "T_" metadata sets break down the class record into subject, predicate, and object.



Data Architect

The triple match the SPARQL SELECT joins

			subject	predicate	skos_definition
subject fib-omds:Auction fib-omds:OrderBook fib-omds:Quote fib-omds:Referential	predicate rdf:type rdf:type rdf:type rdf:type	object owl:Class owl:Class owl:Class owl:Class	fib-omds:Auction	skos:definitio n	Data disseminated during the auction period, i.e. the period of time when there is no automatic execution on an order book. This also includes indicative data and, where relevant, imbalance data sent during the process that matches orders at the end of an auction and determines the final auction price
fib-omds:SecurityStatus	rdf:type	owl:Class		skos:definitio	Represents the state of the order book.
fib-omds:Trade	rdf:type	owl:Class	fib-omds:OrderBook	n	
<pre># Owl Classes.rq SELECT ?class ?q ?skos_definition WHERE { ?class a owl:C</pre>	name ?na lass .	mespace	fib-omds:Quote fib-omds:Referential	skos:definitio n skos:definitio n	The most current bid or ask prices and quantities at which the instruments can be bought or sold. The bid quote shows the price and quantity at which a current buyer is willing to purchase the instruments, while the ask shows what a current participant is willing to sell the instruments for. Represents standing data such as symbol, commodity, and exchange information and any pertinent information about the contract terms. Prior trading period closing/settlement prices can also be disseminated in this event type. Typically this represents static data.
_					Data that indicates the current market trading condition of an
OPTIONAL { ?class skos:de	finition	<pre>skos_definition}</pre>	fib- omds:SecurityStatus	skos:definitio n	individual security, for example, if trading in the security is suspended. This identifies phase transitions in the venue's market model.
J				skos:definitio	Information that belongs to a transaction that involves the selling and
			fib-omds:Trade	n	purchasing of a tradable instrument
Ontologist		https://fih.dm.com	ized Data Models Inc. 2024		

Assert the triple in the Ontology Platform



SPARQL CONSTRUCT



Bi-directional model transformation enables SEIA





US Patent & Trademark Office publication

With 23 drawings, 19 tables, and 35 pages of specification, the patent fully discloses the invention.

Sixteen claims comprehensively cover the method, system, non-transitory storage medium, and all embodiments.

The patent protects CODT licensees and generated models, including FIB-DM.



https://fib-dm.com/patent/



Finance key point

License Agreement

- FIB-DM licensees can purchase CODT as an addon.
- New users can license FIB-DM + CODT bundle.
- (There is no standalone CODT license.)
- Jayzed already holds the copyright to the FIBO Data Model.
- Educations Resources are included.



FIB

4

DM

• You are free to modify, translate, edit, and even lift off images and diagrams as long as they remain within your organization.

- **Software** deliverable are the MS-Excel CODT Workbooks.
- The site license doesn't limit the number of users.
- x∎
- You are free to modify the software and to create new models for internal use.
 - Just like your FIB-DM license, you must keep derived models confidential.



- The license covers the **intellectual property**.
- You are free to leverage metadata sets, queries, formulas and algorithms disclosed in source code, and the specification for internal development.
- You must not share CODT embodiments.



Pricing

Licenses are priced for institution size, using your EDM Council membership tier as a segment.

Line of Business	Metric	Tier A	Tier B	Tier C
Sell Side	Consolidated Capital	\$10B+	\$500M-\$10B	<\$500M
Buy Side	Assets under Management	\$200B+	\$50B-\$200B	<\$50B
Custody	Assets under Custody	\$1,000B+	\$100B-\$1,000B	<\$100B

https://fib-dm.com/full-data-model-upgrade/

The add-on price for existing FIB-DM licensees is two-thirds of your data model license. E.g. \$10,000 for a Tier C bank. The bundle price for new users is 1.5 times the standalone FIB-DM.

Central Banks, Multilateral Lenders, and other qualifying financial institutions get the Tier C price (without further discounts, irrespective of asset size.

Large commercial lenders and investment companies can get the *early adaptor* or *stimulus* discount.



Finance key point

Proof of Concept (POC) - overview

The Proof of Concept is an offer to try, test, and evaluate CODT free of charge.

Scope	SEIA is a huge enterprise transformation.
	FIB-DM already proves that CODT creates the superior data model.
Ohiective	Prove that CODT works for your FIBO extensions.
Objective	Test the application
	Evaluate the Intellectual Property
Materials	MS-Excel Workbooks
i viaceriais	Education materials
	Patent (for Legal and Compliance to assess)
Training &	Two Days Training (online video conference)
Support	Three Days support (emails)



Finance key point

Assemble your Proof of Concept Team



Management, Finance, or business sponsor. You are authorized to sign nondisclosure and license agreements.



Ontologist with an in-depth understanding of the FIBO and in-house ontologies. You adapt the queries to your SPARQL dialect and produce the raw ontology metadata .



Data Architect, with experience in Enterprise Reference models. You configure CODT to match your naming standards, and load metadata sets into the data modeling tool



Developer / MS-Excel Power User experienced in VBA, Power Query, and the M-Language. You can troubleshoot complex formulas and queries, and explore technical embodiments.



Proof of Concept – technical preparation





- Power PC (32 GB Ram), Windows 10 (64 bit), MS Excel, and MS PowerQuery
- Ontology Platform with SPARQL Query User interface: Topbraid Composer, Protégé, or RDF-Store/Semantic Endpoint.
- SAP PowerDesigner (PD) data modeling tool. If you have ERWin or other modeling tools, use PD trial first and import the data model. Later, you may customize CODT to import into your tool.
- The FIBO loaded in you Ontology Platform. Before the POC try the Entity Query and reproduce the raw metadata extract.
- Your proprietary ontology should be an extension of the FIBO. Make sure, to include FIBO modules and have a prefix defined for your namespaces. E.g.:

@prefix br-bank-model: <http://bankontology.com/br/Bank_model.ttl#> .

• The Entity Query must return FIBO alongside your classes with prefix.





Proof of Concept typical six-week timeline

ID	Task Name	Start	Finish	Duration	Sep 2020	Oct 2020	Nov 2020
					9-13 9-20 9	27 10-4 10-11 10-18 10-25	5 11-1 11-8 11-15
1	CODT POC	2020-09-17	2020-11-04	34d	\bigtriangledown		
2	Preparation	2020-09-17	2020-09-30	10d		Ь	
3	Lick-off	2020-10-01	2020-10-01	0d	×	>	
4	Hands-on training	2020-10-01	2020-10-09	7d	<u>کر</u> ا	7	
5	Entity end-to-end	2020-10-01	2020-10-02	2d		-	
6	Associations	2020-10-05	2020-10-06	2d		┝┣	
7	Data Property	2020-10-07	2020-10-07	1d		⊳I	
8	Packages	2020-10-08	2020-10-08	1d			
9	Annotations	2020-10-09	2020-10-09	1d		÷]	
10	Transform FIBO	2020-10-12	2020-10-16	5d		∇	
11	Extract Ontology Matadata	2020-10-12	2020-10-13	2d		<u>_</u>	
12	Transform E/R Metadata	2020-10-14	2020-10-15	2d		L L	
13	Load into DM tool	2020-10-16	2020-10-16	1d		⊳	
14	Transform Your Extensions	2020-10-19	2020-10-22	4d		┝ᡖ	/
15	Explore Configurations	2020-10-23	2020-10-27	3d		└ → —	
16	Explore embodiments	2020-10-28	2020-10-30	3d		+ <mark>_</mark>	
17	Wrap-up	2020-11-02	2020-11-03	2d			
18	POC Complete	2020-11-04	2020-11-04	0d			↓

POCs are rolling with maximal two banks at a time.

Two weeks are for introduction into CODT and transforming the FIBO as a POC.

We repeat the transformation exercise with the addition of your proprietary ontologies.

You can explore configuration changes and other embodiments



Finance key point

Summary and conclusion





Finance key point

Next step: Discuss a CODT POC



Send an email to jziemer@jayzed.com, "CODT POC" to have an overview and discussion with your Q&A. You need a team and executive sponsor to sign off on NDAs.

Find further resources on the FIB-DM website, the YouTube Education Channel and follow the LinkedIn showcase for news, updates, and discussion.





https://www.youtube.com/c/fibdm



https://www.linkedin.com/showcase/fib-dm/



Finance key point