

Open FIBO / Knowledge Graph Update

Live Date: March 31, 2020

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WEBINAR Q&A:

Are hygiene tests encoded in owl? if so, then how are they enforced?

Custom hygiene tests are coded in SPARQL. They are enforced by running the SPARQL against the about-to-be-published version of FIBO. If any fatal errors are found, the publication is stopped. "Soft" errors are reported back to the JIRA that prompted the most recent change. We also run Pellet to look for any OWL issues (unsatisfiable classes, lints, inconsistencies, etc.)

Can you talk about the difference between Open Knowledge Graph vs Neo4j vs FIBO View?

Neo4J is a graph database platform. EDMC Open Knowledge Graph is a set of ontologies that actually provide a semantic model for some domains (FIBO for the financial domain and AUTO for the automotive one). "FIBO View", I assume you meant "FIBO Viewer", is a web application that is designed to access both the FIBO structure and its content in the easiest possible way.

Can you view the ontology and propose a change specific to a section of the ontology, in context?

FIBO is modularized. It is a set of ontologies. It is organized in a hierarchical directory structure. Top-level directories are called domains; beneath that may be one or two levels of sub-domain and then modules and dozens of ontologies at the bottom level. So you can view a particular ontology (see our Github space: <https://github.com/edmcouncil/fibo>) and propose a change to a section of the ontology.

Could you please tell us more about the FIBO development tool stack? Is it mainly protege?

The FIBO publication platform has been designed to be agnostic to development tool; it deals entirely through the standard serializations of RDF. Historically, development has been done in Protege, TopBraid Composer and MagicDraw CCM.

Do we have any showcase use cases of FIBO usage with *structured* data? If not can EDMC build a sample application to showcase this?

Most FIBO applications use structured data. State Street Bank did a POC a few years back, using structured data. <https://wiki.edmcouncil.org/display/FIBO/State+Street+Bank+PoC+VIDEO>

The FIBO course has three examples in the hands-on exercises of structured data. FIBO can also be used to analyze unstructured data, but we have not done any public-facing demonstrations of this.

Does FIBO cover insurance domain?

FIBO does not cover the insurance domain. Our community is open to this extension.

How do users know what has changed in FIBO Production only? The release notes appear to pertain to Development.

FIBO Development subsumes FIBO Production. So the changes pertain to both. There is no simple way to track changes only in the FIBO Prod. We'll try to figure out how to allow for this feature.

Is the use of JIRA by both FIBO and OMG still the path to moving FIBO content from EDMC to being an OMG standard? If not, what is?

We are in the process of coding of the transition between FIBO Github issues into the OMG Jira issue tracker.

Has any financial institution already started an initiative using FIBO to standardize their KYC records?

We know of some institutions that are using FIBO for GDPR applications, which includes some KYC data. We are unaware of any efforts to use FIBO specifically to standardize KYC data.

How do you track changes to ontology when it changes overtime. Like if Entity X relates to Entity Y and then changes to Entity Z. How's that work?

At the moment, change tracking is done in Git, so a change like the one you suggest here will show up in the RDF source code as a change to one or more files. Because we use a stable serialization method before we store any file into github, changes like these are usually quite well localized, so a history like what you are describing here will be evident in the source code. Not the most evident way to manage this question (it takes a bit of skill to answer elaborate archaeology questions), but it is effective.

I thought that 'Market Data' (pricing, yields, analytics) concepts were now being included with the corresponding instrument domains (SEC etc.). What is the guidance for people wanting to contribute to or extend such terms, how do they know what domain to work in?

The concepts you refer to are defined in the "general" domains, e.g., Price class is to be found in FND, Yield class is in FBC, etc. And their specializations are defined in the MD domain in the appropriate modules as needed, e.g., DirtyPrice is in DebtTemporal. Obviously, there may be omissions to this pattern - if you are aware of any, we would appreciate your feedback.

Interested in understanding if the scope of FIBO is constrained to atomic data elements e.g. individual, product, account etc., or also includes derived data e.g. regulatory elements derived from the general ledger such as risk weighted asset value?

FIBO already contains some instance data (see e.g. <https://spec.edmouncil.org/fibo/ontology/BE/LegalEntities/LEIEntities/LegalEntityIdentifier>) and is capable of handling any derived data that fall under FIBO concepts (providing they are properly modeled and defined). Currently, FIBO cannot properly capture the risk-weighted asset.

Is there a correlation between FIBO and BIAN, the latter adopting ISO20022 for its business object model?

FIBO and BIAN share some developers and have kept in touch. There was a presentation at EDW a few years ago about BIAN using FIBO. There is no active project at the moment for formal cooperation between the projects, but we do keep an eye on one another.

Is there any initiative to make FIBO align with Banking Industry Architecture Network initiative? Is there FIBO shacl?

We have played around with SHACL in FIBO, but we haven't made any official publications. We are aware of some classes in FIBO that cannot be effectively modeled in OWL, and would require SHACL, but none of the FCTs have made a concerted effort to do this.

Does FIBO allow for state diagrams (e.g. for risk analysis) (states of not just organizational entities but also that of applications)?

There is a way of transforming FIBO OWL into diagrams. See e.g. this project: <https://spec.edmouncil.org/fibo/FIB-DM>. We welcome any projects that contribute to a better understanding of FIBO through any forms of presentation of the FIBO content.

Nice frameworks... where does the CONTENT come from?

FIBO Content Teams (FCTs) are working groups that are formed when the FIBO Community Group decides what existing or new FIBO Domain should be further developed. FCTs can also focus on creating documentation or use cases and user stories for FIBO. FCTs are designed to build FIBO with content that has been developed by the subject matter experts (SMEs) from the finance industry and tested to the highest requirements published by the FIBO Community. See:

<https://github.com/edmcouncil/fibo/blob/master/CONTRIBUTING.md#fibo-content-teams>

Do real time questions such Oil and gas Process data can also be historized and can be monitored?

Our Oil and Gas modeling efforts are quite nascent, but there is nothing that would prevent us from modeling a production process. The management of real time data has to do with the data system, that would be built using the oil and gas ontology, and whether it has sufficient real-time capabilities.

What is the pricing of the courses?

Go to our Event Calendar – you can view class dates, prices and register. <http://edmcouncil.org/events>

What liaison with other standards bodies, such as IEEE, ISO, NIST?

FIBO is standardized by OMG. For terminology work, FIBO follows the guidance provided in ISO 704: Terminology work — Principles and methods for terminology development, and ISO 1087: Terminology work and terminology science — Vocabulary. ISO 3166 is used for country and subdivision codes. FIBO also uses the set of legal entity identifiers that comprise the ISO 17442 legal entity identifier specification and the set of entity legal form identifiers that comprise the ISO 20275 entity legal form specification

Will there be additional session/courses offered in the future?

We plan to do offer OKG course in all 3 time zones, three more times this year at a minimum. The current offer is here: <https://spec.edmcouncil.org/fibo/courses>

Are there any plans for incorporating ESG into FIBO?

Not that I am aware of at the moment. This is important to us, but we would need sponsorship to do something like this.

Is there contribution in FIBO from monetary authorities such as MAS, ACPR, FINMA?

Not that I know of to date. We would welcome their participation. The NY Fed and Kansas City Fed have helped in a handful of cases but rarely participate in our calls.

Do you know if there are any tools to convert a data format e.g. XSD to a OWL structure?

There may be a way to do this using some UML-based tools - first convert XSD to MOF using IMM/CWM (Information Management Metamodel/Common Warehouse Metamodel) based tools and then applying MOF2RDF tooling.

IMM is the successor to the OMG CWM (Common Warehouse Metamodel) standard that includes a standard metamodel for XSD that IMM updates - IMM is still "in process", though, not yet published. MOF2RDF takes any MOF/UML model and converts it to OWL. So, to do this using that tooling one would need to do this two-step and have these tools to enable doing so.

Some UML vendors are working on this sort of thing, and Adaptive can do this. There may be other mechanisms as well that I'm not familiar with. Also, Capsicum (from <http://www.capsi.com.au/>) has a facility for importing XSD into their framework, which is OWL-based.

Are you aware of any EKG vendor packaging graph algorithms into their standard offering?

Many vendors do this: AllegroGraph, Stardog, Cambridge Semantics are some that we know of for sure.