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FIBO Technology Summit At SemTechBiz: Financial Industry And Sem Tech Leaders Discuss Ontology Evaluation Tools, FLORA-2's Potential, And More

By [Jennifer Zaino](#) on June 11, 2013 12:15 PM

Last week's Semantic Technology & Business Conference played host to the [FIBO \(Financial Business Industry Ontology\) Technology Summit](#). The event, which saw some 60 conference participants from the semantic web, financial industry and other sectors, as well as academia, was led by David S. Newman, SVP & Strategic Planning Manager Enterprise Architecture, at [Wells Fargo](#) and Chair of the [Enterprise Data Management Council's](#) Semantics Program, and Dennis E. Wisnosky, founder of [Wizdom Systems](#) who is providing technical strategy and operational guidance to the Council for finalizing and implementing FIBO standards.



"This was a tremendous milestone for FIBO and FIBO's full evolution," Newman told The Semantic Web Blog following the event. It brought "together a lot of smart people working with semantic technology for a number of years to get their insights into how to further mature FIBO, as well as how to mature the technology, so that FIBO can really resonate with the regulatory community and the financial industry, so that it will have some real solid traction, be able to truly scale to the needs of the constituencies" – that is, not only financial institutions but the entire financial system. Says Newman, "That's a big, tall order."

The idea behind FIBO is to standardize the language used to precisely define the terms, conditions, and characteristics of financial instruments; the legal and relationship structure of business entities; the content and time dimensions of market data; and the legal obligations and process aspects of corporate actions. As an open-source, global financial initiative, it is planned to bring health to the financial system, through defining a vast amount of information semantically and providing a better capability for the industry and its regulators to look at more complex patterns and relationships of information in friendlier ways than conventional technology can offer.

At a session following the FIBO Technology Summit at last week's conference, Wisnosky, also formerly the chief architect and CTO of the Department of Defense, explained one way the financial industry should view FIBO. Today, he said, financial institutions "spend hundreds of millions of dollars gathering data for regulators, with no advantage internally. The carrot [of FIBO] is to reduce those costs." Ignore the carrot and wait for regulators to ask for more data, and watch costs go up. Added Newman, "if information is highly trustworthy, then the perception of risk regulators have of the financial industry might be lessened, if they can govern and certify an institution aligns with a common data standard, which is FIBO in our proposal."

During that session, Newman also brought up some of the outcomes of the FIBO Technology Summit, such as discussions that were held about challenges to defining regulatory rules that are more complex and beyond the means of OWL 2 DL and SWRL. In his conversation with The Semantic Web Blog following the conference, he provided more details.

FIBO's work to semantically define some highly complex financial concepts, instruments and relationships between different business entities, as well as looking at the complexity of all the different trades and financial transactions that occur between them, has a strong start in using OWL 2 and SWRL, a financial transactions that occur between them, has a strong start in using OWL 2 and SWRL, a very expressive

rules language that works well with OWL 2 ontologies. “That said,” Newman says, “it doesn’t take us as far as we ultimately want to be from a long-term perspective.” Good standards development, he says, requires you to think 2,5,10, even 20 years out, and consider if the technology will be upwardly compatible and equal to future demands and challenges.

To that point, at the FIBO Technology Summit [FLORA-2](#), which Newman says is an example of a very highly expressive and sophisticated semantic rules language that was open-sourced just a few weeks ago, created some excitement. “The capabilities that are in FLORA-2 are very powerful and pretty much close many of the gaps that exist today,” he says. “There will be certain computations that are going to be much more difficult, if not impossible, to do with some of the existing languages like SWRL that may be doable with FLORA-2.” It may not yet be ready for commercial use, but attendees at the Summit included individuals who are very involved in developing that aspect. “That’s an amazing capability that is moving up,” he says, and as the technology progresses in scalability and integration with existing semantic web technologies, the potential for it to be on FIBO’s plate to use is there.

While FLORA-2 gives the FIBO folks a good future trajectory, an important focus at the Summit was starting a dialogue about some of the other capabilities that are more primed for the present. Semantic rule processing, semantic visualization capabilities, supporting data at the scale of a financial system or even the scale of a very large financial institution, visual and predictive analytics all are ripe areas. Trying to understand information in tabular lists takes you only so far in understanding entities and their relationships start to blur, but run semantic-web based data through a visualizer, as was demonstrated at the event, and “now you can suddenly see a picture of a business entity connected to another one, and all its ownership relationships,” he says. “You just can’t do that with tabular data without investing in other software that takes longer and takes more investment to get to the same place. So this already positions us to see these visualizations, which lend very well to risk management, which is a key use case of FIBO.”

Also entering into the discussion at the Summit was the subject of evaluating ontologies. “If ontologies are going to become the future means of business knowledge representation, we have to make sure the ontologies are done correctly, that they are done well, so that they will meet the quality assurance needs that will be a prerequisite for success,” says Newman. The tools needed for what FIBO’s leadership calls intrinsic quality control, often coming out of academic research, are still maturing but on a good development track. Some available, he notes, are [OOPS!](#) (Ontology Pitfall Scanner), for a way of running QA logic against the ontology to discover whether there are some structural mistakes with it, as well as [OntoQA](#), [OntoClean](#) and [OQUARE](#). It’s important for FIBO to make sure whatever it may leverage will be well-supported either commercially or in the open source community.

Generating operational ontologies from conceptual ontologies also got traction at the Summit. With FIBO, certain ontologies are conceptual, sort of a blueprint of ideas for the initial, human-facing semantic modeling, and others are operational ontologies that are that executable and fulfill business use cases. And there is overlap between the two classes as they rely on the same concepts. “So we are looking for the development of tools to help us better model the conceptual ontologies, [for] a model-driven generation of operational ontologies from the conceptual ontologies to reduce the time it takes to build them,” Newman says. “So it’s much more automated. That opened up a lot of discussion around the value to the industry of having these tools, and was a starting point for tools vendors to become aware that would be a desirable outcome and investment in order for semantic technology to really get traction in the enterprise.”

The FIBO Technology Summit, Newman says, was the first of what will be many more types of similar venues where key people can raise questions, open up discussions about challenges and low-hanging fruits, and explore research and investments that would be beneficial. Newman also notes that the EDM Council wants to launch a semantic technology advisory committee, which would be an opportunity for many of the leaders in the semtech community to come together with many of the key players in the financial industry, and focus on how to further address challenges. “This was the first step of many future steps that need to be taken to start a dialogue of what we need to further develop and evolve across the entire technology and financial community,” he says.