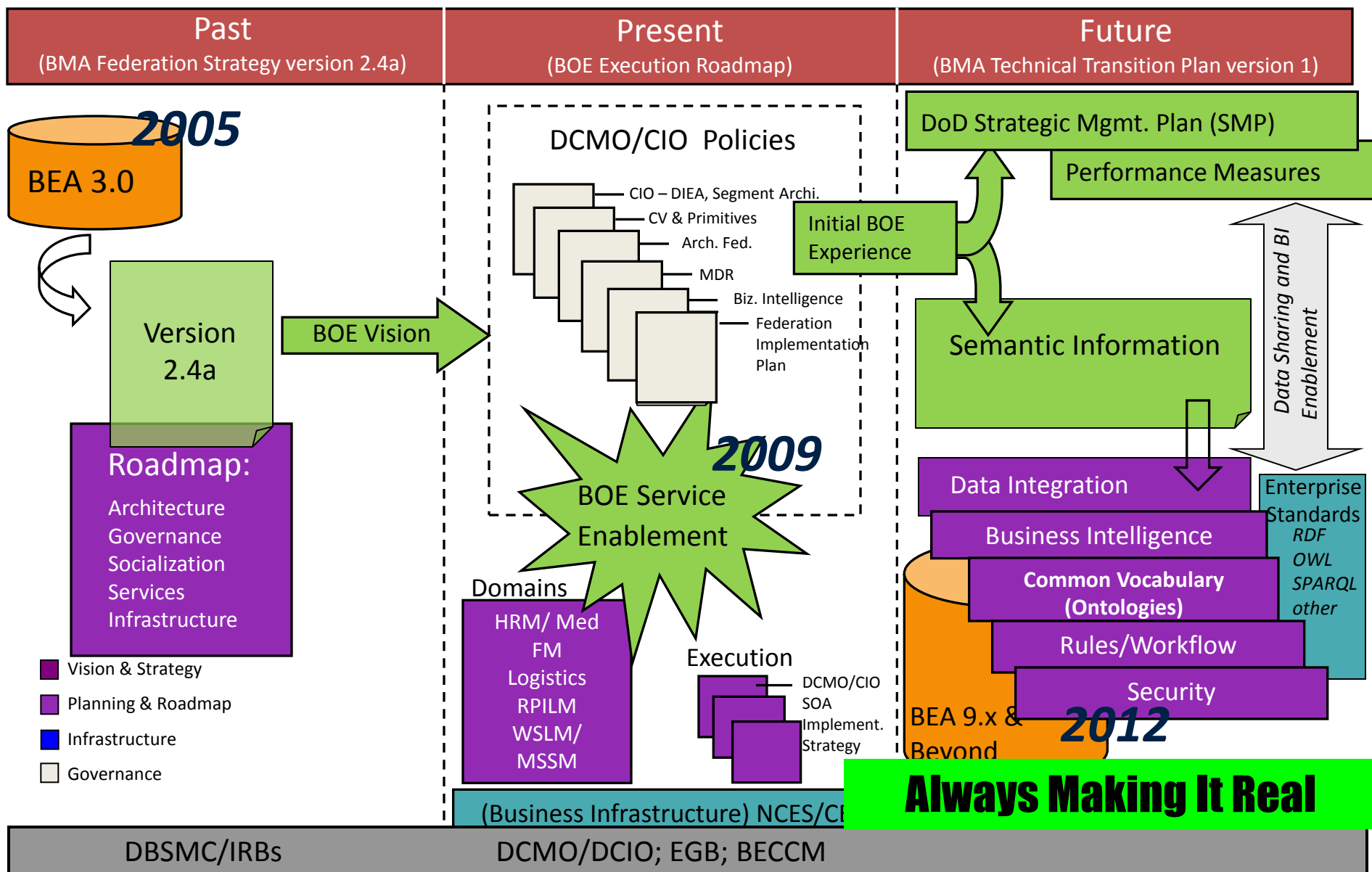


# Moving Semantics into the Mainstream!

It is 2013, Do you Know Where  
Your Money is?

Dennis E. Wisnosky  
Founder, Wizdom Systems, Inc.

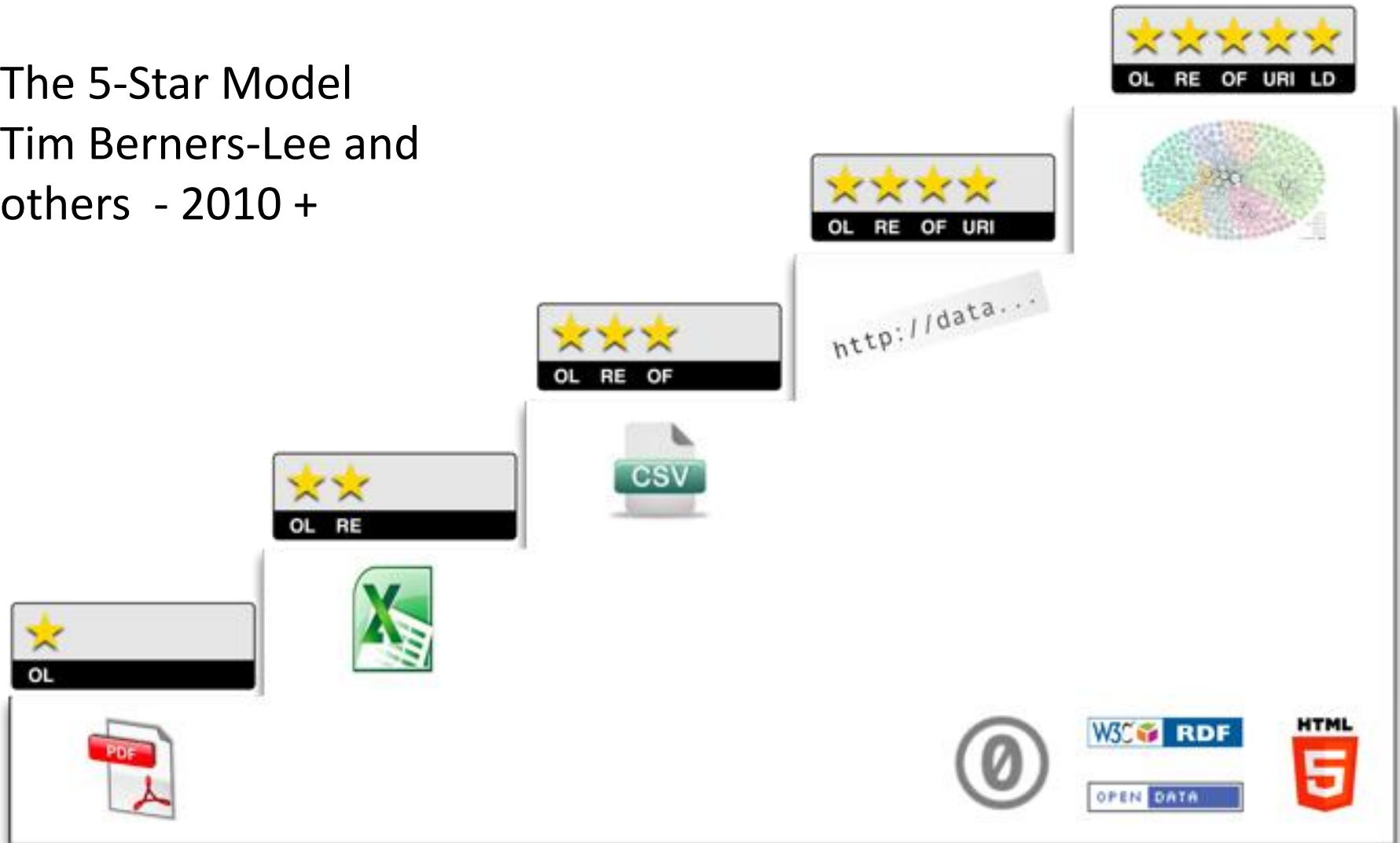
# A Block of my Road to the Mainstream!



# A Road to the Mainstream!

## The 5-Star Model

Tim Berners-Lee and  
others - 2010 +



# How 5-Star Data Works

- 1 make your stuff available on the Web (whatever format) under an open license<sup>1</sup> [example ...](#)
- 2 make it available as structured data (e.g., Excel instead of image scan of a table)<sup>2</sup> [example ...](#)
- 3 use non-proprietary formats (e.g., CSV instead of Excel)<sup>3</sup> [example ...](#)
- 4 use URIs to denote things, so that people can point at your stuff<sup>4</sup> [example ...](#)
- 5 link your data to other data to provide context<sup>5</sup> [example ...](#)

<http://5stardata.info>

**How Open Linked Data Works!**

# What Could be More Simple!

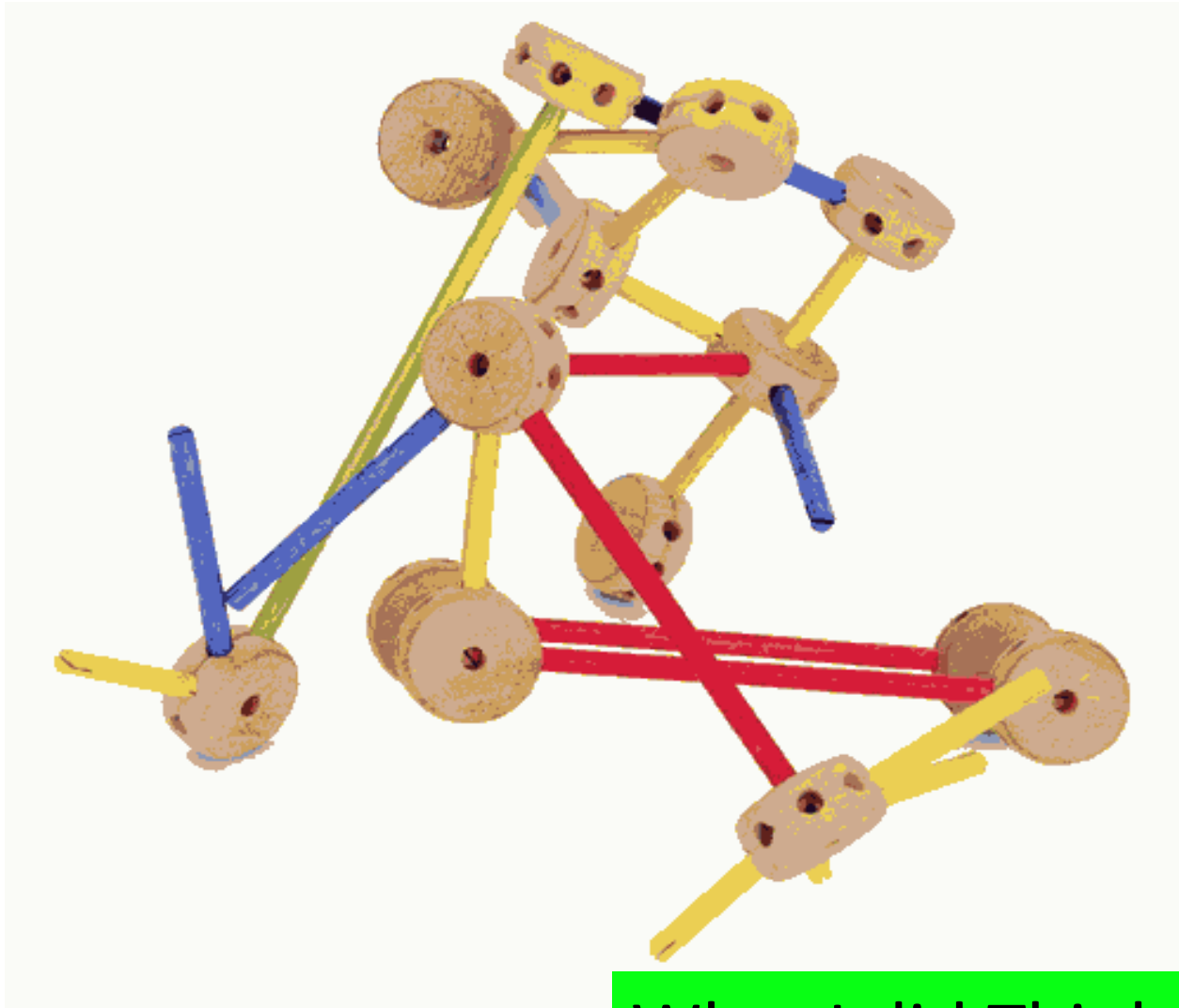


Courtesy David McComb

9/11/2013

**Can be Expanded Without Limit!**

# Can be Expanded Without Limit



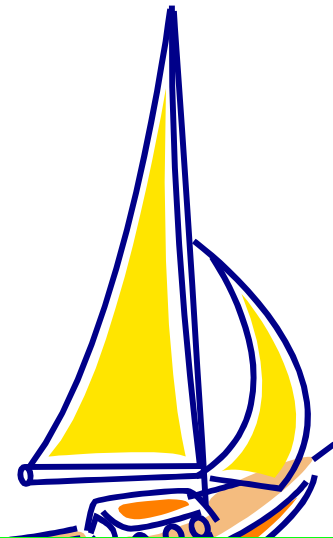
Courtesy David McComb

**What I did Think of!**

# The need for a Common Vocabulary



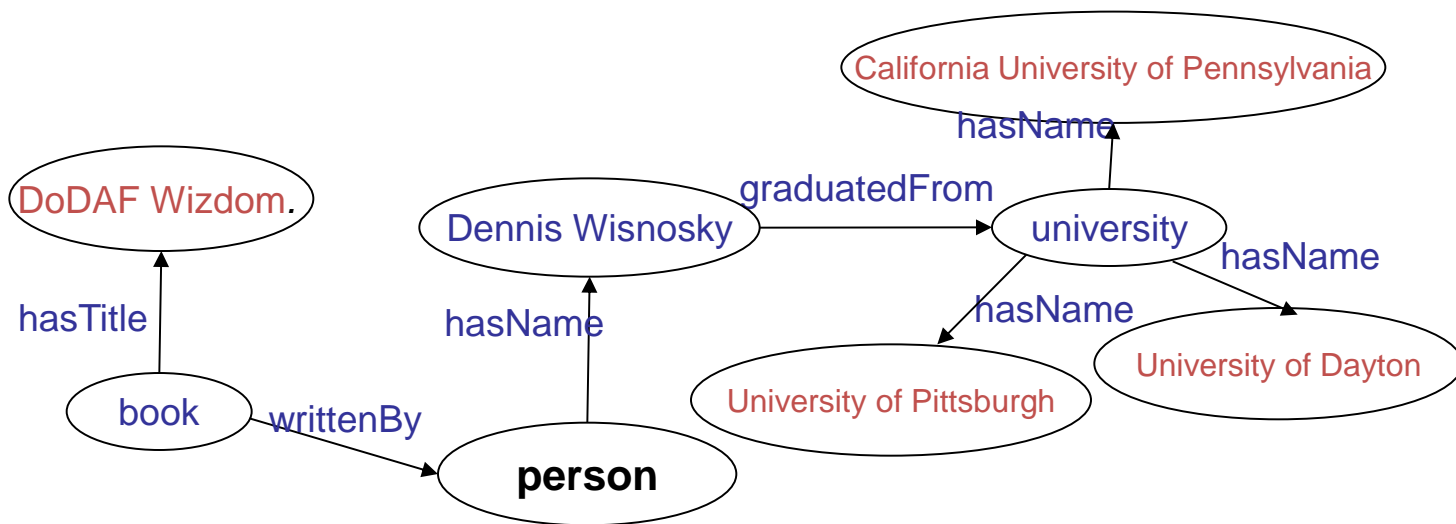
"Now! That should clear up  
a few things around here!"



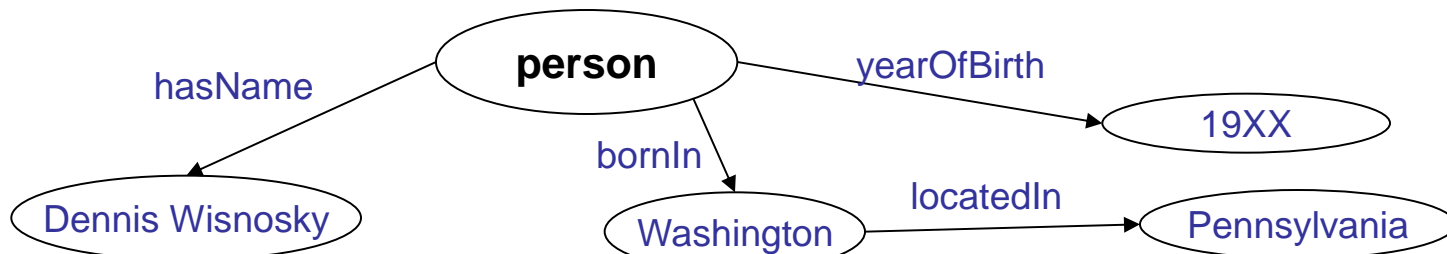
**Benefit shown by Example!**

# Common Vocabulary in Action

DBpedia  
(Wikipedia)  
Dataset



DoD HR  
Dataset



Wikipedia Data: Who wrote "DoDAF Wizdom"?

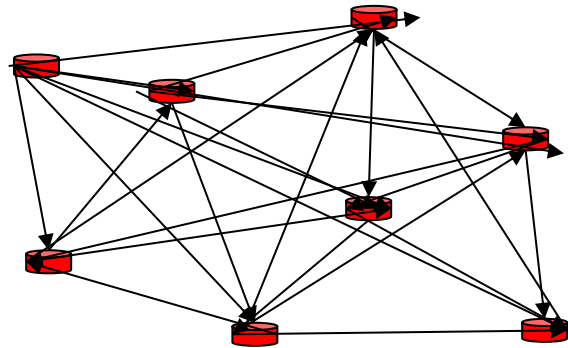
DoD HR Data: Where

Linked Data: Where was

What is the true meaning of this?



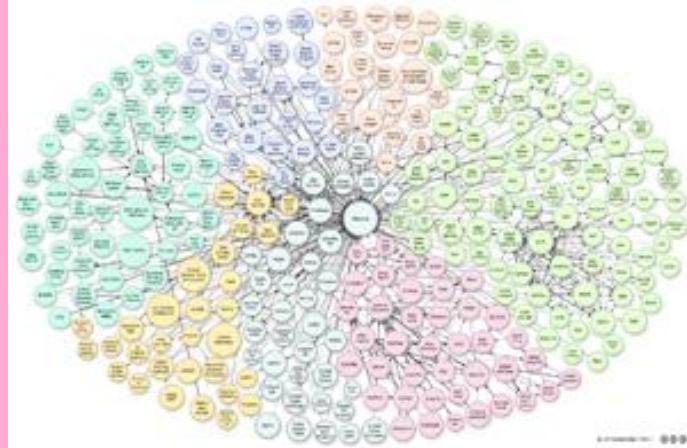
# Enormous Efficiency in Operations



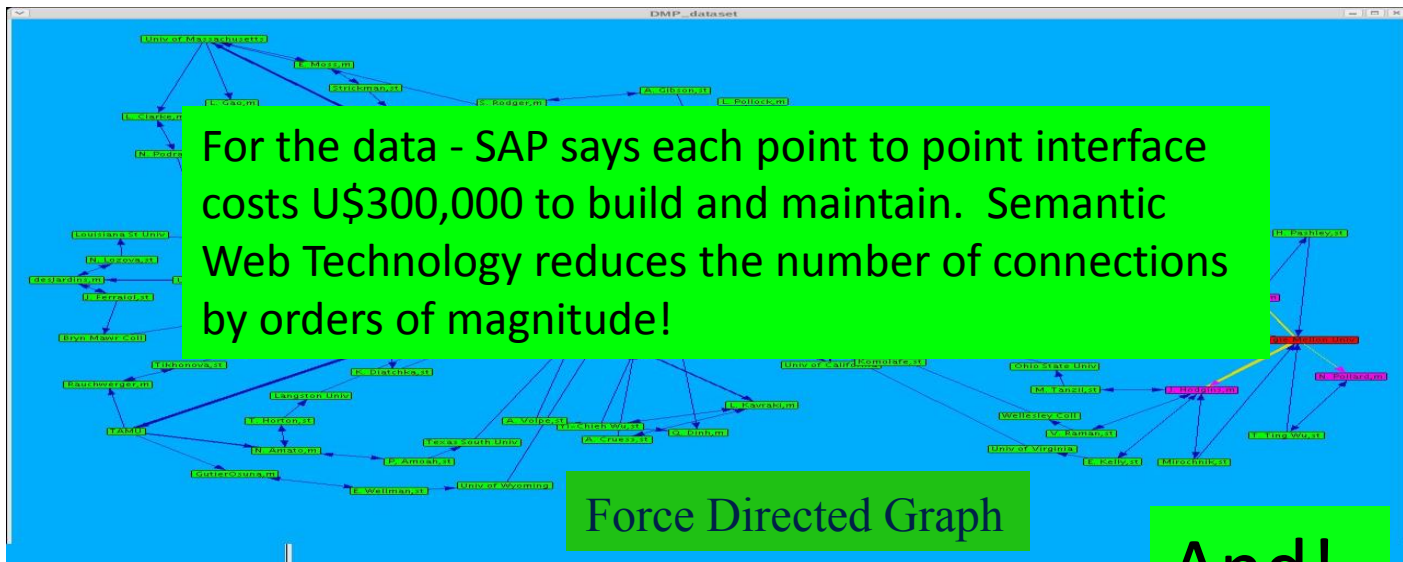
(near) Exponential connections ( $n^2 - n$ )

BIG DATA?

I want what I want,  
I want what I need,  
I want to know it is right,  
I want it when I need it.

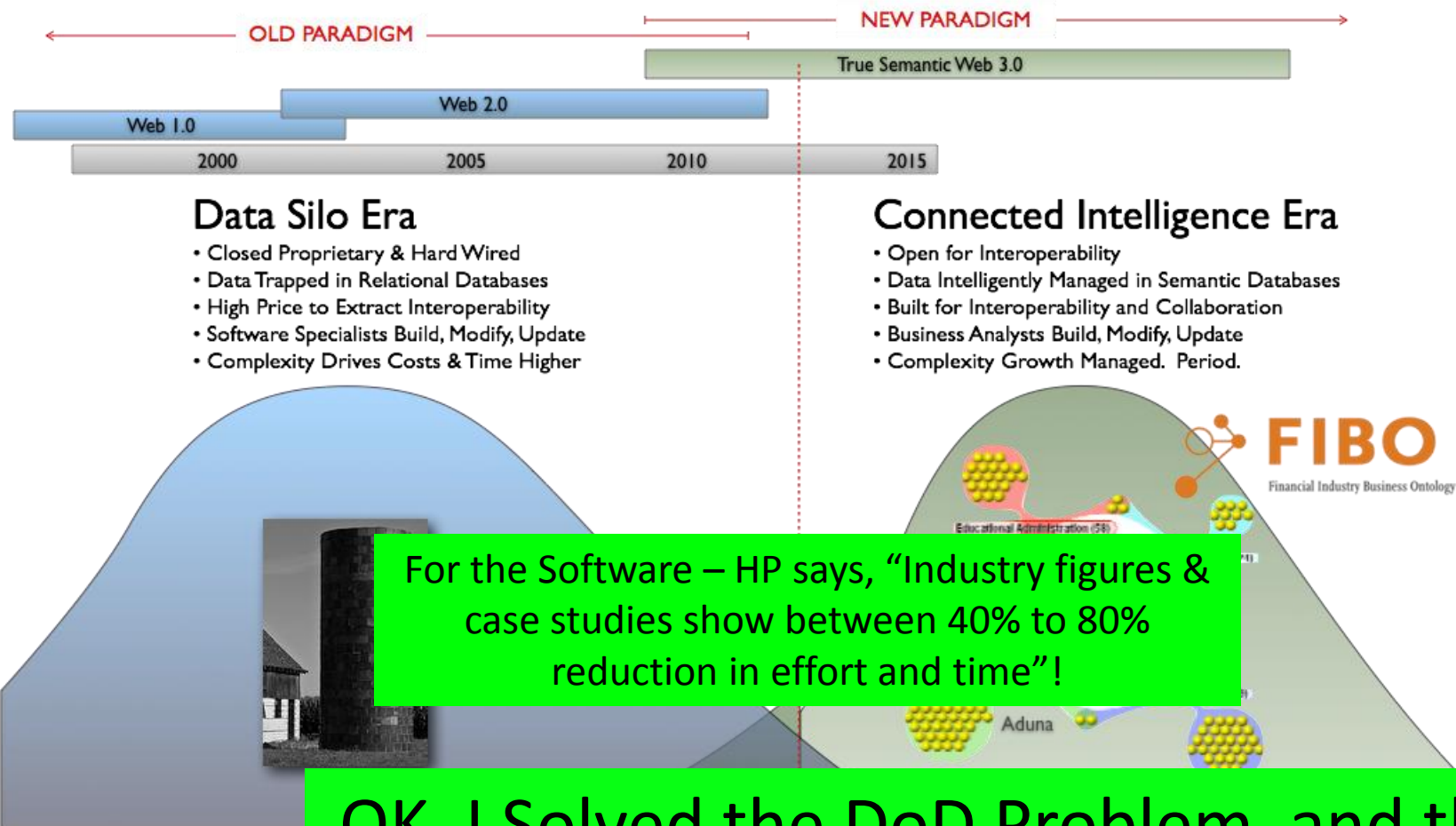


(near) Linear connections ( $2n-1$ )



# Enormous Efficiency in Development

## Shift to Connected Intelligence



# An Bigger Personal Problem!



My War was  
Over!



Or was it!



What had  
Happened?

# What had Happened?

Many causes for the financial crisis have been suggested, with varying weight. The Levin-Coburn Report cited high risk, complex financial instruments, the failure of regulatory agencies, the market itself to regulate, the repeal of the Glass-Steagall separation between commercial and investment banks in the United States, and investors' failure to adjust their mortgage-related investments to 1st-century financial markets. [17] Research into the causes of the financial crisis has also focused on the



**Remember my Subtitle?**

# The Feds Act!

Dodd-Frank 3000 pages

Must be Interpreted by:



OFR



CFTC



SEC



OCC



FRB



ECB



# The Industry Cries Foul!

“The need to create useful data rather than just lots of data comes as large global institutions face huge expenditures ranging from \$150 million to \$350 million each to comply with new post-credit crisis regulatory requirements. In the United States, Europe and elsewhere, that is "significantly larger" than the level of expenditures required previously for complying with Sarbanes-Oxley Act, Markets in Financial Instruments Directive and Basel II requirements, from before the crisis”, said Javier Fasso, head of management.

**The Industry Responds!**



# What is Needed!

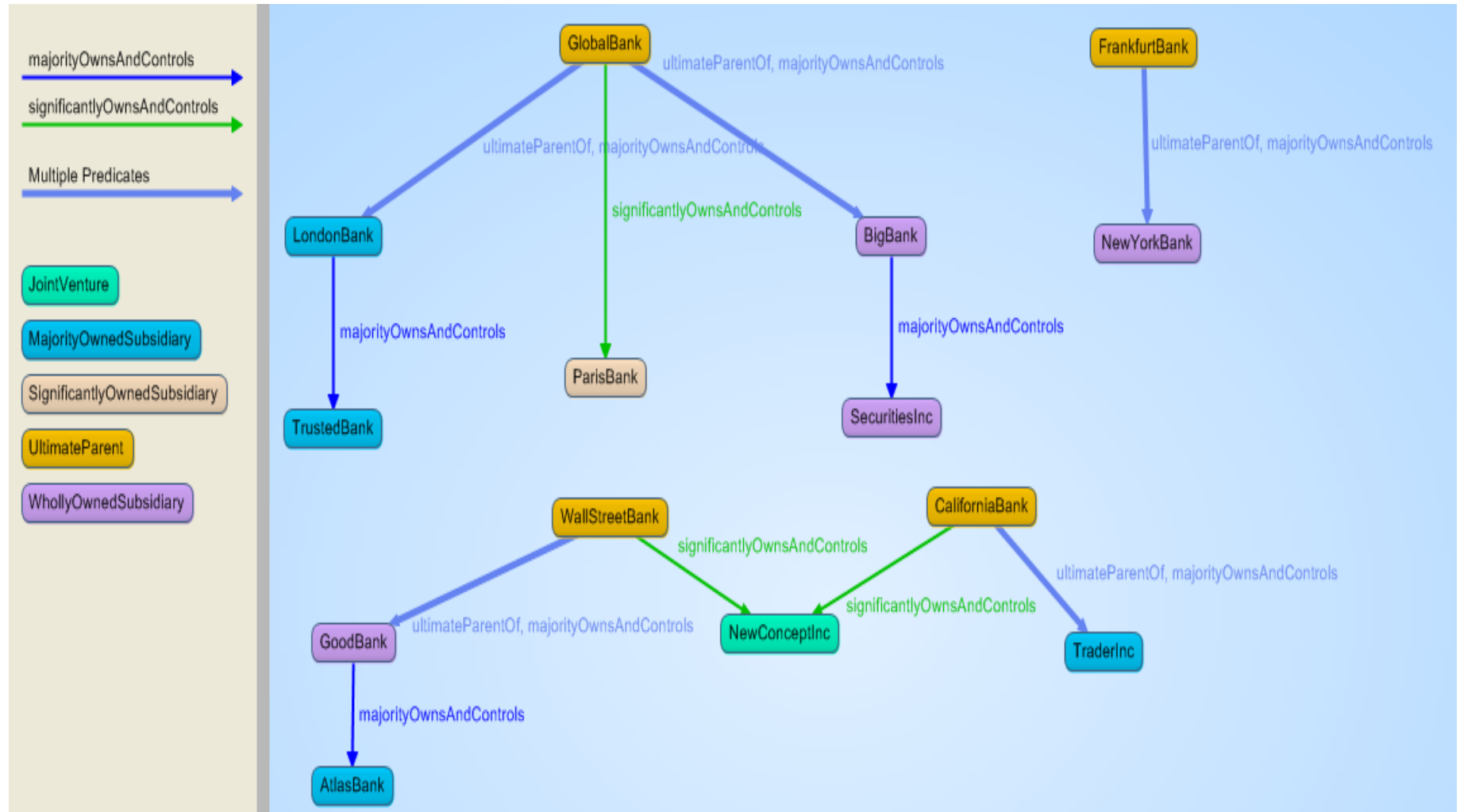
- “A simplified and replicable method of calculating exposure to risk that can be universally applied to sources of transactions that are reconcilable to accounting records
- Global identification standards for legal entities, products and financial events to facilitate the aggregation and comparison of risk exposure data within and between financial institutions and across the industry
- A ‘Big Data’ framework that is able to provide regulators and others with complete and accurate real-time information relating to the global financial system”

This needs statement is summarized by the Basel Committee as “an intelligent semantic network for systemic risk analysis.”

Basel Committee on Banking Supervision in June 2013 issued for comment a paper entitled *Supervisory Framework for Measuring and Controlling Large Exposures*

**Orders of Magnitude Simplification of the Problem**

# Must Solve Problems Like This





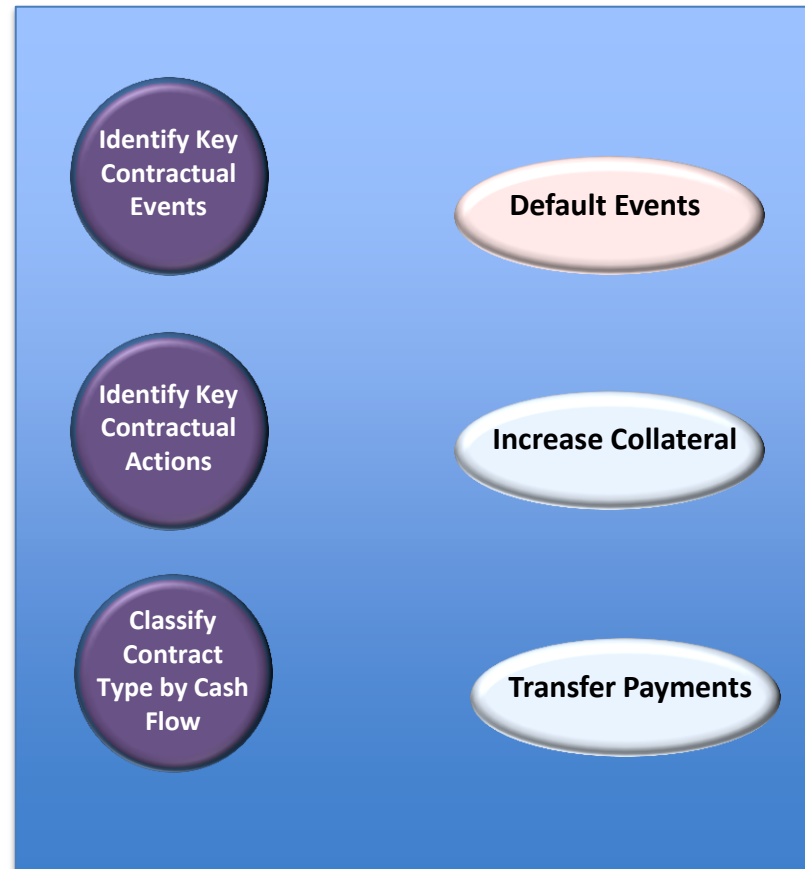
# What Do You See?

Is it ok for  
different people  
to interpret this  
picture in  
different ways?



# What Should You See?

Is it ok for  
different people  
to interpret this  
picture in  
different ways?



# We Must Believe!

Once upon a time, there were no standard definitions of financial terms and the financial institutions could interpret the meaning of the rules and regulations of the industry each in their own way. Everyday, new financial instruments and transaction types were invented. One day, major companies in business for many decades began to collapse and lead the world into general economic depression. Because of that, regulators struggled mightily to understand the condition of the world's economy and it became clear that the companies themselves did not know their true financial exposure. Because of that, an effort was launched by the industry to develop a Financial Industry Business Ontology (FIBO) - a common vocabulary based on international standards, that would enable companies to better communicate within and among themselves and would enable regulators to perform meaningful oversight as required by laws. Until finally, the dual purpose of reducing the cost of manufacturing data required by law became de minimis and Congress and regulators were confident of the provenance of answers to their questions of the industry.

# Enterprise Data Management Council's (EDMC) FIBO Participants

**WELLS  
FARGO**

✓ Wells Fargo chairs the EDM Council's Semantic Technology Program, interfaces directly with regulatory authorities and leads the working group that is responsible for constructing the operational capabilities of FIBO

**Bank of America**



**citi** bank

**CHASE**



**UBS**

**CREDIT SUISSE**

**HSBC**



**Manulife Financial**

**Morgan Stanley**



**Fidelity**  
INVESTMENTS



**STATE STREET**

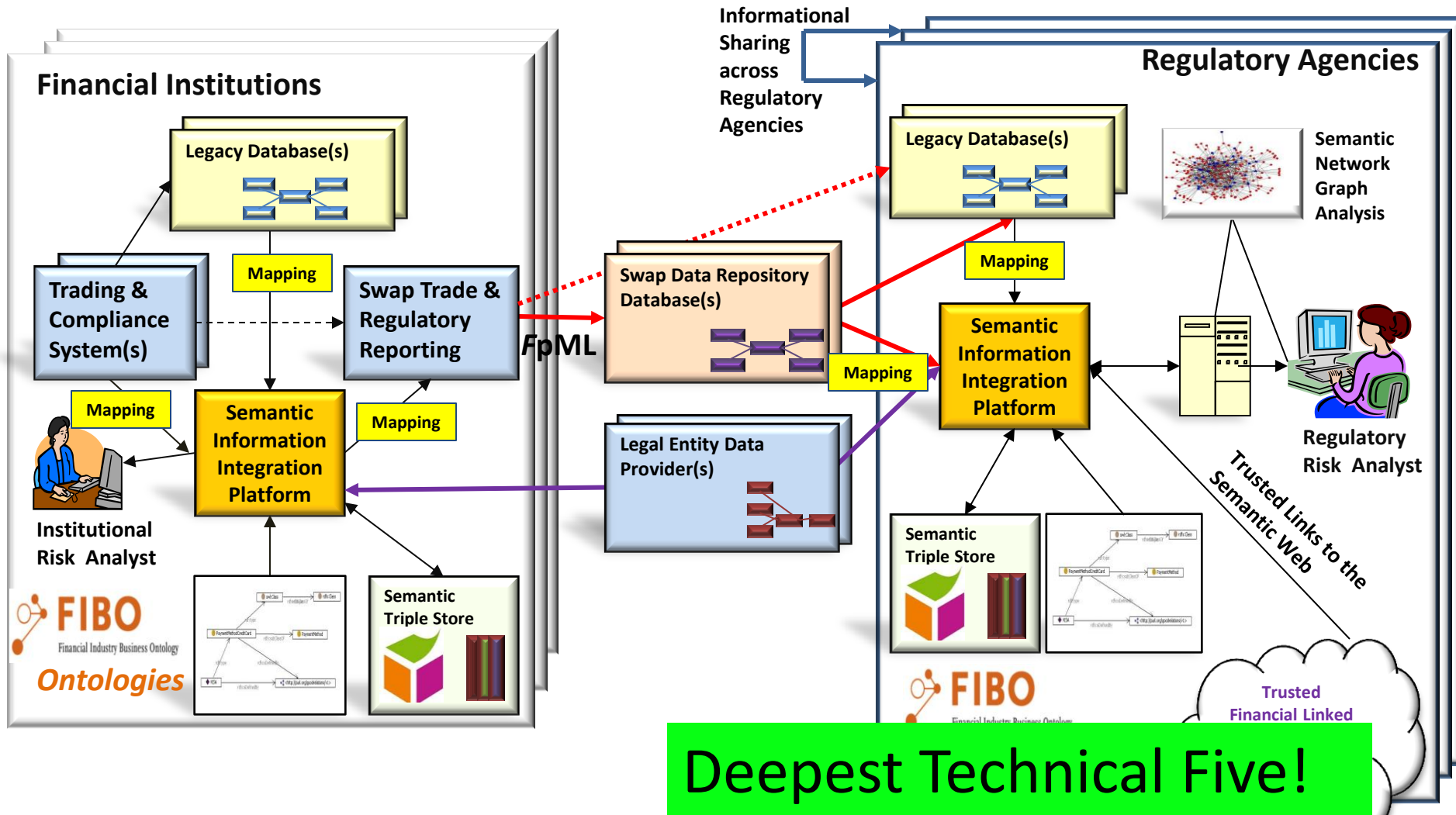


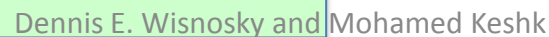
**Northern Trust**

**Deep Technical Five!**

**Iman  
hs**

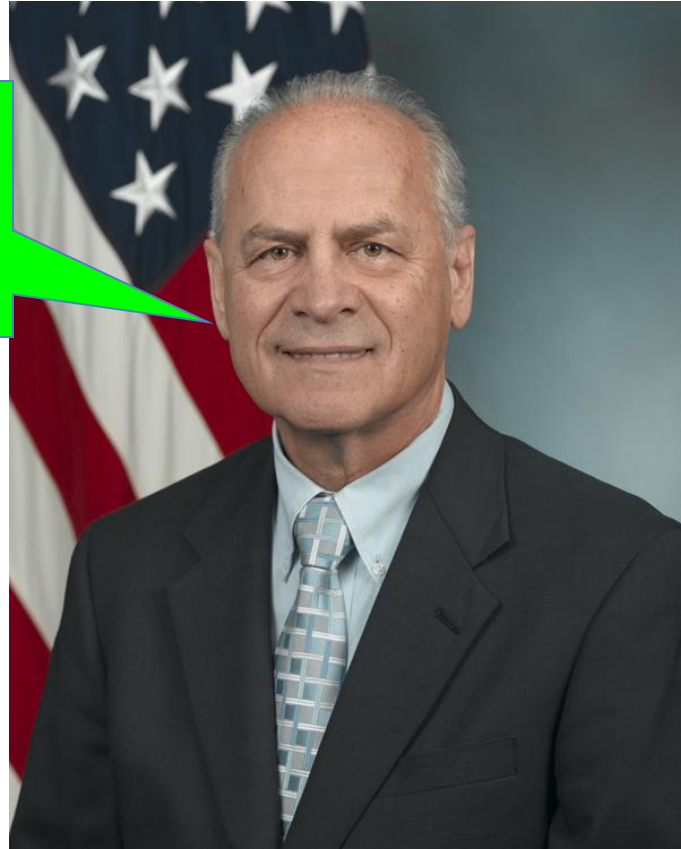
# What the Bankers and Feds Will See





# Thank you!

Questions?  
[Dennis@wisnosky.net](mailto:Dennis@wisnosky.net)





The screenshot displays a Safari browser window with the address bar showing the URL [http://www.youtube.com/watch?v=OzW3Gc\\_yA9A](http://www.youtube.com/watch?v=OzW3Gc_yA9A). The main content area features a YouTube video player with a man in a suit holding a glowing green sphere. The video title is "Intro to Semantic Technology in the DoD Business Mission Area" by "dennis wisnosky". The video progress bar indicates 0:15 / 3:38. The right sidebar shows a list of related videos, including "Introducing The Lumia 928" by NokiaUS, "The Semantic Web - An Overview" by Peter WebExplorations, "Semantic Technology - Part 1 - Introduction" by AndrewMcIntyre1, "DoD and the Semantic Enterprise 'Heading, Altitude, and Airspeed'" by jzucal1, and "Demo of a Semantic Web Portal" by iqser. The dock at the bottom contains various application icons, including Safari, Mail, Calendar, and iTunes.

[http://www.youtube.com/watch?v=OzW3Gc\\_yA9A](http://www.youtube.com/watch?v=OzW3Gc_yA9A)