



# **The Web of Meaning: The Business Value of the Semantic Web**

**William Ruh**

**Global Practice Director**

**December 1, 2004**

# The World's Most Successful Business Document

Cisco.com

Self  
Describing

Easy to  
Understand

Issued  
and  
Accepted

The  
XML  
Technology

Issued &  
Accepted

Convertible

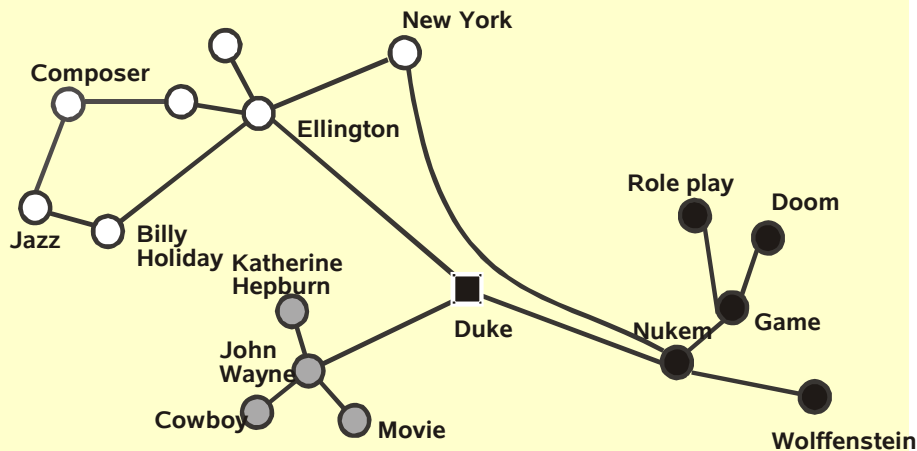
Can be  
Secured



# The Semantic Web brings additional benefits

Cisco.com

## The Semantic Web: Structure and linkage within and between business information



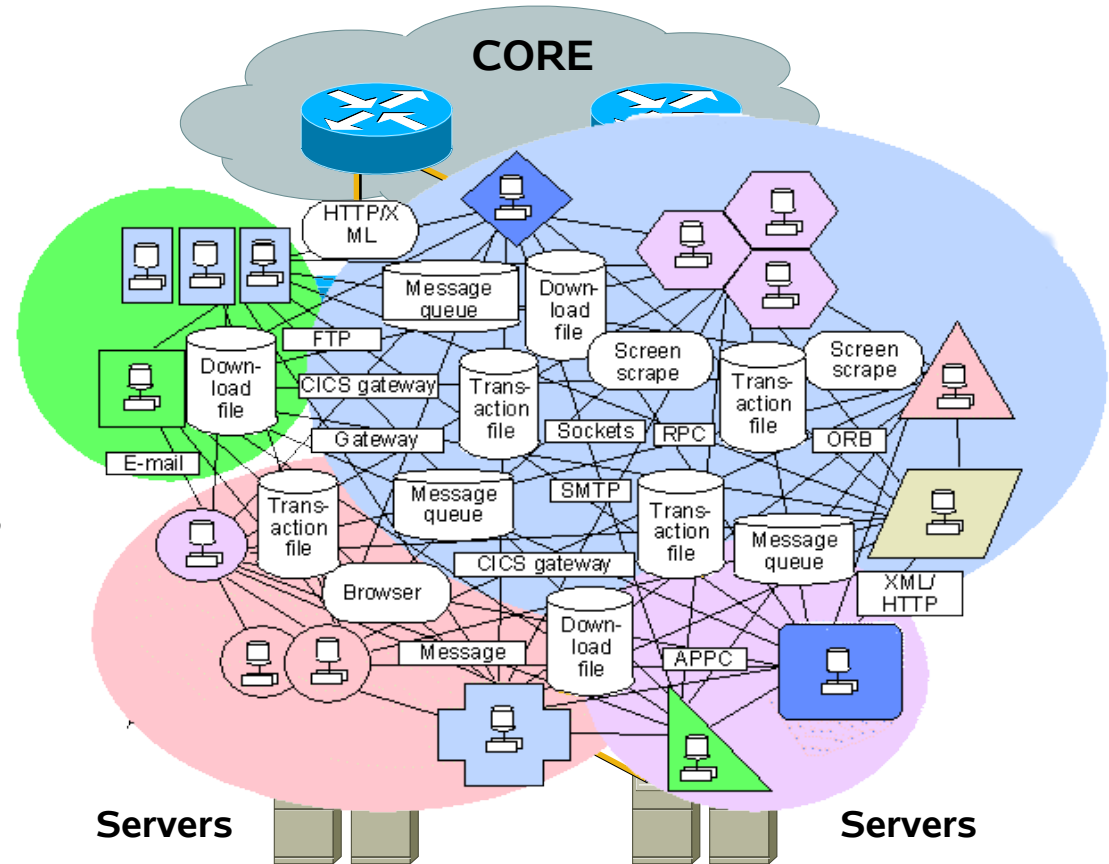
- Regulatory compliance
- B2B Exchange
- Workflow and BPM
- Business Intelligence
- Integrated systems

# What if all business information had these attributes?

- **Executives could answer:**
  - Who are the most profitable clients?**
  - I'm meeting with the FUBAR corporation today, tell me everything about our relationship.**
  - Where do these numbers come from?**
- **Employees could:**
  - Ensure compliance with Sarbanes Oxley, Basel II and other regulations through the information linked and embedded into financials and business documents**
  - Find the information they need when they need it including all the supporting information**
  - Stop getting an unreadable number of hits on search engines**
- **IT Professionals**
  - React faster to B2B and other external integration needs**
  - Spend less time on formats and more on content integration**
  - Support all of the above and more!**

# Why can't we do this today in business?

- IP has brought structure, consistency and ease of use to the network world
- HTTP & HTML has brought structure, consistency and ease of use to the Web
- The application world is:  
Distributed, heterogeneous  
Evolves, extends  
Costly, complex, rigid,  
opaque
- Rebuilding from scratch, creating a single database or implementing proprietary middleware won't solve the problem



# The Semantic Web: A Natural Evolution in the Enterprise IT Environment

**Lineage**



**Only a few network standards really matter  
Over the long term – TCP, IP, Ethernet, HTTP, HTML XML – lineage matters**

**Today's biggest IT obstacle**



**Standards success is based on timing and need. IT's problems keep moving up the stack. This is the current IT problem.**

**Jurassic Park not Command and Control**



**Standards grow and are applied in ways that are not predicted, are counter to conventional wisdom, and take time.**

# A Dose of Reality: The Good and Bad

- **So how is this being applied today in business:**

**Tip of the iceberg: RDF is being applied under the covers of well over 100 identified products and over 25 information service providers (brute force search unaided by the Semantic Web)**

**DARPA is applying in several high profile projects for the DoD, including in the creation of DAML**

**Creation of Ontologies for business and government**

**Proprietary protocols being transformed in XML based formats – FIXML, HL7, LegalXML, Rate Sheet Markup Language and 100's of others (XML.org)**

**Web Ontology Language (OWL)**

- **But this is not free, there is hard work and more evolution to achieve Nirvana**

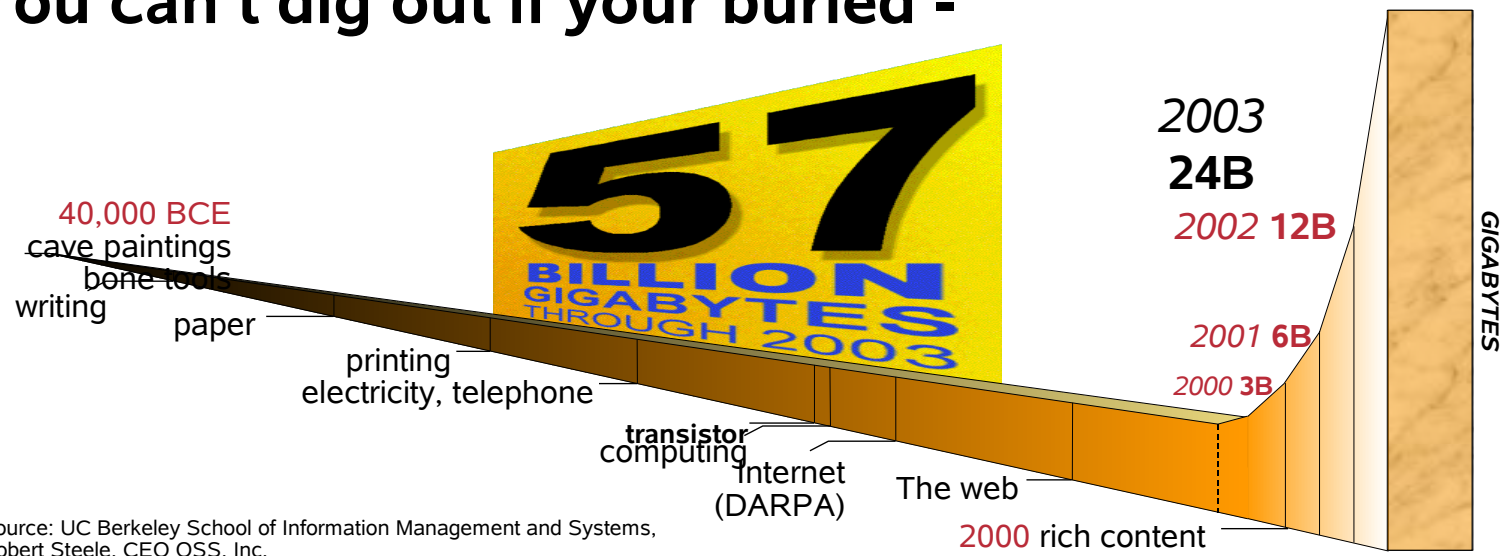
**Ontology and structure require real work to derive the benefits**

**Network technology needs to become more application aware**

**Technology adoption is governed by the knowledge absorption rate of XML and the semantic web technologies by practicing professionals**

# Final Thoughts

- **The train has left the station so get on it** - XML has become universally accepted and semantic web technology is being applied in the leading edge
- **You can't stop history** – The lineage and timing are right for this approach
- **You can't dig out if your buried** -



Source: UC Berkeley School of Information Management and Systems,  
Robert Steele, CEO OSS, Inc.