

Topic Areas include:

Business Vocabularies
Web Services

Unstructured Data
Ontology and Taxonomy

Semantic Queries
Business Rules

Semantic Modeling
OWL and RDF

Meta Data

Semantic Brokers

The Semantic Web

Semantic Search

Upper Models

Knowledge Representation
Data Warehousing

The first conference focused on the application of **Semantic Technologies** to Enterprise Systems and the Web

Keynote Speakers:

Eric Miller
MIT & W3C

Peter Norvig
Google

Doug Lenat
Cycorp

Conference Chair:

Dave McComb
President, Semantic Arts
and author of "Semantics
in Business Systems"

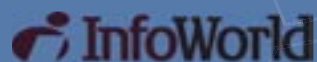
Semantic Technology Conference | 2005

March 7-10, 2005 | Stanford Court Hotel, Nob Hill, San Francisco, CA

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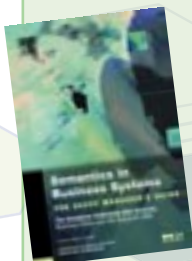
Welcome to the First Annual Semantic Technology Conference

March 7-10, 2005

Stanford Court Hotel, San Francisco, California

Who Should Attend

- **CTOs and Architects** at Internet based firms to find out how the Semantic Web will transform search, and pretty much all functions on the web
- **CIOs and Information Technology Managers** who want to find out how this new technology will dramatically improve the economics of building and integrating internal systems in the future
- **Venture Capitalists** to learn about and begin to handicap new players in this space
- **CEOs of software startups** to find out what semantics can do for their products, and what Venture Capitalists are looking for
- **Product Managers** from established software companies – most software products will need to become semantically aware in the next few years. Get a head start
- **Data Analysts, Data Administrators and DBAs** to find out how Semantic Modeling and Semantic Query will change systems
- **Academics and Researchers** – this is a vast field with myriad opportunities for new research projects
- **Entrepreneurs** – the key standards have been set, the problems defined, but there are still a huge number of products to be built
- **Software Developers** the introduction of Semantic Technology to the development process will profoundly change the way software is modeled and built



All paid conference attendance registrations made on or before December 31, 2004 will receive a free copy of Dave McComb's book *Semantics in Business Systems* published by Morgan Kaufmann. Books will be distributed to qualified recipients when they arrive at the conference.

“Ontologies, and their lightweight versions, taxonomies, will provide enterprises with substantial application discovery, auto configuration and application consistency abilities – key enablers of the next generation integrated enterprise”

Jim Jacobs, Gartner Group

Getting in Context

Rub elbows in this intimate setting with a few hundred of the thought leaders in this emerging space.

Invest four days in an elegant and relaxing atmosphere, while you consider how this technology will change almost every aspect of your enterprise, including:

- **Business Vocabularies**
- **Ontology and Taxonomy**
- **Semantic Modeling**
- **Semantic Brokers**
- **Upper Models**
- **Web Services**
- **Semantic Queries**
- **OWL and RDF**
- **The Semantic Web**
- **Knowledge Representation**
- **Unstructured Data**
- **Business Rules**
- **Meta Data**
- **Semantic Search**
- **Data Warehousing**
- **Investment Opportunities**
- **Market Outlook**

The Semantic Technology Industry

The Semantic Technology Industry is one of the largest industries you've never heard of. It is already a \$2 billion per year industry and is projected to grow to \$63 billion by the year 2010 at which point it will represent about 4% of total IS spending. It consists of software infrastructure and tools, methodology, internet based activity and support for implementation projects.

Inside the enterprise, and across internet, our biggest remaining challenges all come down to creating and resolving meaning. In other words: **semantics**.

For nearly a decade researchers and leading edge entrepreneurs have been toiling away on technology, standards and methodologies that will allow us to leverage what we know about sharing meaning more formally. The standards are now set. The software exists. Many companies have already successfully deployed semantic based initiatives.

Whether you want to revolutionize your industry, or merely find a better way to reconcile your myriad codes and categories, this is the one conference where researchers and practitioners come together to share experience and insight.

"The Semantic Web is not a separate Web, but an extension of the current one, in which information is given well-defined meaning, better enabling computers and people to work in cooperation"

Tim Berners-Lee, W3C

Semantic Web

The Semantic Web is the next generation of the World Wide Web, so says Tim Berners-Lee, the original architect of our current WWW.

Under the leadership of the W3C, the Semantic Web working group has been encouraging and coordinating research and standard setting for nearly a decade. In 2004 the W3C accepted the base technology standards of the Semantic Web, ushering in a new wave of standards based innovation.

*Interested in Sponsoring or Exhibiting?
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email rick@wilshireconferences.com.*

What is Semantic Technology Exactly?

Semantics is the study of meaning. Semantic Technologies are software technologies that make that meaning more explicit. They come in three main flavors: informal, proprietary and open. The Semantic Web initiative have just recently (February 2004) anointed RDF and OWL as the sanctioned W3C standards, which is expected to bring a flood of products adhering to these standards. Products are already available, and more are on the way. In the meantime many companies are improving their bottom lines with informal and proprietary Semantic Technologies.

Leading companies are already capitalizing on Semantics. Come and find what Google, UPS, Merck, TVA, Raytheon, and NASA (to say nothing of your peers in the audience) have already done in this field. Find out about the Semantic underpinnings behind RSS, Foaf and Dublin Core, and how millions of documents on the Web came to be Semantically tagged.



Fad or Fundamental Shift?

Ok, so Semantics is hot now. Is this a flash in the pan, or something with enduring quality? The reason we believe that this marks a substantial long term shift is that this set of technologies is focused exactly on the problems that are causing most of our information system problems, and provide access to many of our unfulfilled promises. Leading analysts have estimated that 35-65% of our System Integration costs are due to Semantic issues. Similar impacts are to be found in almost every area that we will look at in the course of this conference.

AGENDA AT A GLANCE

Monday, March 7 – Tutorials

7:30 – 8:30	Registration & Continental Breakfast		
8:30 – 10:00	Semantics 101 <i>Dave McComb, Semantic Arts, Inc.</i>		
10:30 – 12:00	Introduction to the Semantic Web <i>Jim Hendler, University of Maryland</i>		
12:00 – 1:00	Lunch Break		
1:00 – 2:30	Implementing Canonical Models in Your Organization <i>Dave Hollander, Contivo Inc.</i>	Introduction to the Dublin Core <i>Joseph Busch, Ron Daniel, Taxonomy Strategies</i>	
3:00 – 4:30	Bringing Structure to Unstructured Information <i>Peter Hallet, SchemaLogic</i>	Architecture Patterns for the Enterprise Semantic Web <i>Jeff Pollock, Network Inference</i>	
4:45 – 5:45	Ontologies in Action (Special Interest Groups)	FoaF – (Friend of a Friend)	RSS – (Really Simple Syndication)

Tuesday, March 8 - Conference

7:30 – 8:30	Registration & Continental Breakfast		
8:30 – 8:45	WELCOME: <i>Dave McComb, Semantic Arts, Inc.</i>		
8:45 – 9:45	OPENING KEYNOTE: The Semantic Web is Here / <i>Eric Miller, World Wide Web Consortium</i>		
	CONCEPTS	MARKETPLACE	CASES and RESEARCH
10:15 – 11:15	Semantic Web Services: Promise, Progress and Challenges <i>David Martin, SRI International</i>	The Role of Semantics in Enterprise Information Integration <i>JP Morgenthal, Software AG</i>	Extracting a Practical Drug Ontology from the UMLS <i>Mark Sharp, Merck Research Laboratories</i>
11:15 – 12:15	Semantic Search Using RDF Metadata <i>Bradley Allen, Siderean Software</i>	Semantics in Data Warehousing and Integration <i>Stephen Pace, Kalido, Inc.</i>	Embracing Dynamic Semantics: A Case Study <i>Kurt Conrad, Ontolog Forum, Bo Newman, KM Forum, Bob Smith, Tall Tree Labs</i>
12:15 – 1:30	Lunch Break		
1:30 – 2:30	Semantic Information Management <i>Zvi Schreiber, Unicorn Solutions</i>	The Business Value of Semantic Technology <i>Mills Davis, TopQuadrant</i>	Designing Controlled Vocabularies for Large Organizations: Taxonomy Development at NASA <i>Jayne Dutra, Jet Propulsion Laboratory</i>
2:30 – 3:30	XML Design for Semantic Transparency <i>Uche Ogbuji, Fourthought, Inc.</i>	Semantic Web for the Front and Back Office <i>John Robert Gardner, Sun Microsystems</i>	Semantic Technology and Model-Based LifeCycle Support <i>Ralph Hodgson, TopQuadrant</i>
4:00 – 5:00	KEYNOTE PRESENTATION: The Future of Search / <i>Peter Norvig, Google</i>		

Wednesday, March 9 - Conference

7:30 – 8:30	Continental Breakfast		
8:30 – 9:30	Building Better Enterprise Message Models with Semantics <i>Fran Clark, Arpeggio Technology, Simon Robe, Semantic Arts</i>	Business Applications of the Suggested Upper Merged Ontology <i>Adam Pease, Articulate Software</i>	Removing Technical Bias from Semantic Conceptual Modeling <i>Harry Ellis, British Army</i>
9:30 – 10:30	Semantic Technology Research at the Digital Enterprise Research Institute (DERI) <i>Christoph Bussler, Stefan Decker, DERI</i>	Ontological Semantic Cognitive Data Measurement and Business Intelligence <i>Adrian McKeon, Infoshare Limited</i>	Governance and Synchronization of Enterprise Vocabularies <i>Kevin Lynch, Raytheon</i>
11:00 – 12:00	KEYNOTE PRESENTATION: Six Degrees of Semantics / <i>Doug Lenat, Cycorp</i>		
12:00 – 2:00	Lunch Break – Tabletop Exhibits Open		
2:00 – 3:00	The Model Driven Semantic Web: Emerging Technologies and Implementation Strategies <i>Elisa Kendall, Sandpiper Software</i>	Semantic Discovery in Semi-Structured Data <i>Ed Green, Silver Creek Systems</i>	Taxonomy and Metadata at UPS <i>Barbara LaRobardier, United Parcel Service</i>
3:00 – 4:00	Semantic Web: Business Rules in Action <i>Terry Moriarty, Inastrol, Inc.</i>	Semantic Web and Ontology Technologies in the Context of Emerging GRID Computing Infrastructures <i>Geoff Brown, Oracle Corporation</i>	Providing Semantics Using Fuzzy Set Methods <i>Ronald Yager, Machine Intelligence Institute, Iona College</i>
4:30 – 5:30	Investor and Venture Capital Panel: <i>Ralph Hodgson, Warren Weiss, Amanda Reed, Nicolas El Baze</i>		
5:30 – 7:30	Reception and Tabletop Exhibits		

Thursday, March 10 - Conference

7:30 – 8:30	Continental Breakfast		
8:30 – 9:30	The Policy Aware Web <i>James Hendler, University of Maryland</i>	The Semantic Broker as e-Commerce Enabler <i>Henk Meeter, Integrity GmbH, Christian Fillies, SemTalk</i>	MDDQL: Multi-lingual Query Language and System for Heterogeneous Data Sources <i>Epaminondas Kapetanios, Plirosoft GmbH, Semantic Technologies</i>
9:30 – 10:30	LATE BREAKING NEWS! <i>See Conference Website</i>	A Tale of Two Models: From ER/UML to Semantics <i>Greg Congleton, Eliezer Israel, Greg Robinson</i>	
10:30 – 11:45	The Future of Semantics <i>Dave McComb, Jim Hendler, Dave Hollander and Additional Conference Speakers</i>		
11:45 – 12:00	CHAIRMAN'S CLOSE: Conclusions, Summaries, Projections, Predictions And Wild Speculation		

KEYNOTE PRESENTATIONS

Tuesday, March 8, 2005

8:45 am - 9:45 am

The Semantic Web is Here

Eric Miller,
Semantic Web Activity Lead,
W3C World Wide Web
Consortium's Semantic Web Initiative



This year the W3C approved RDF and OWL as the key standards for the Semantic Web. Sites and products are springing up all over. From his vantage point as Semantic Web Activity Lead, Eric Miller has access to the status of many initiatives using these technologies, whether on the Web or within Enterprises. In this keynote Eric will briefly summarize where the Semantic Web came from, what people are using it for now, and where it is likely to go in the very near future.

Eric Miller is the Activity Lead for the W3C World Wide Web Consortium's Semantic Web Initiative. His responsibilities include the architectural and technical leadership in the design and evolution of Semantic Web infrastructure. Responsibilities additionally include working with W3C Working Group members so that both working groups in the Semantic Web activity, as well as other W3C activities, produce Web standards that support Semantic Web requirements. Before joining the W3C, Eric was a Senior Research Scientist at OCLC Online Computer Library Center, Inc. and the co-founder and Associate Director of the The Dublin Core Metadata Initiative. Eric is a Research Scientist at MIT's Computer Science and Artificial Intelligence Laboratory.

4:00 pm - 5:00 pm

The Future of Search

Peter Norvig,
Director of Search Quality, Google



Needless to say, "search" has emerged as one of the Internet's killer apps. It wasn't obvious at first...as the web was growing up, few analysts and futurists saw the full power of search and its ability to capture user attention. Nowadays however, nobody is missing those implications. In this keynote presentation, Peter Norvig takes a look at the trends and future directions in search, with a closer examination of the advances in semantic technology and research which will be key to the ongoing development of better search techniques.

Peter Norvig is a Fellow and Councilor of the American Association for Artificial Intelligence and co-author of Artificial Intelligence: A Modern Approach, the leading textbook in the field. Prior to his role at Google, he was head of the Computational Sciences Division at NASA Ames Research Center, where he oversaw a staff of 200 scientists performing NASA's research and development in autonomy and robotics, automated software engineering and data analysis, neuro-engineering, collaborative systems research, and simulation-based decision-making. Dr. Norvig received a B.S. in Applied Mathematics from Brown University and a Ph.D. in Computer Science from the University of California at Berkeley. He has over fifty publications in various areas of Computer Science, concentrating on Artificial Intelligence, Natural Language Processing and Software Engineering.

Wednesday, March 9, 2005

11:00 am - 12:00 noon

Six Degrees of Semantics

Doug Lenat,
President,
Cycorp



If software is ever going to be able to effectively inter-operate (in ways that were not explicitly preconceived and engineered), it will be because applications share enough of the semantics of their data elements. But one of the most misunderstood and frankly ironic things about "semantics" is that it means different things to different people. In this talk, we'll look at several different layers of semantic sharing, and in particular we'll see how the Semantic Web, as currently envisioned, will need to be extended with layers of (1) shared implicit content (consensus reality knowledge) and (2) explicit metadata specification of context.

Doug is one of the world's leading computer scientists, and is both the founder of the CYC® project and the president of Cycorp. He has been a Professor of Computer Science at Carnegie-Mellon University and Stanford University. He is a prolific author, including hundreds of research and academic papers and four books. His 1976 Stanford thesis earned him the bi-annual IJCAI Computers and Thought Award in 1977. He was one of the original Fellows of the AAAI (American Association for Artificial Intelligence).

4:30 pm - 5:30 pm

Investor and Venture Capital Panel

Ralph Hodgson,
TopQuadrant (moderator)



Nicolas El Baze,
Partech International

Amanda Reed,
Palomar Ventures



Warren Weiss,
Foundation Capital

This panel session of VCs who have already made investments in the semantics area will consider a number of issues on the minds of software entrepreneurs and investors as the semantics business emerges from its infancy and enters adolescence.

- What opportunities are VCs interested in right now?
- What makes Semantics an attractive space (or not)?
- What risks are investors especially concerned about?
- What's the current funding environment like for enterprise software and semantic web start-ups?
- How does the Semantics area compare with previous software categories...are there any analogs or lessons learned from past software cycles that might be useful to consider?
- Exit strategies...timing, deal structures etc...what are the trends, valuations, etc right now?

Please see conference website (www.semantic-conference.com) for panelist biographies.

Monday, March 7, 2005

8:30 am - 10:00 am

Semantics 101

Dave McComb,
President, Semantic Arts, Inc.



This presentation will start by putting semantics in its place (which is nearly everywhere). For those new to the field we will cover the key concepts and new vocabulary. A glossary will be distributed to aid in your understanding of the rest of the conference. For veterans in the field we will take a fresh look at how semantics in general, and Semantic Web technologies in particular, are insinuating themselves into almost all our new initiatives. This will be a cook's tour of how Semantics will transform: Enterprise Integration (through Semantic Brokers and EI), Architecture (through semantic based discovery of Web services and ontologically based message models), Business Rules (by basing the rules in semantically consistent concepts) and Data Modeling (by rigorous application of shared meaning). One of the key objectives of this talk is to get everyone to some common ground, and provide a basis for deciding which sessions will be of most value to you for the remainder of the conference.

Dave has been successfully leading software development, planning, and review projects for over 25 years. He has worked with dozens of clients and dozens of technical environments, including 13 years at Andersen Consulting, and as an independent consultant. He has conducted hundreds of semantic modeling sessions with clients over the last 12 years, and is author of "Semantics in Business Systems" (Morgan Kaufmann, 2003).

10:30 am - 12:00 noon

Introduction to the Semantic Web

Jim Hendler,
Professor, University of Maryland



The World Wide Web is often referred to as a web of information, but is it? When you ask a query on the web you get pointers to pages, not answers. If you're looking for something beyond text, you're often unable to find it. The next generation of the Web, already in the works, aims to fix this by making more of the content on the web "understandable" to the programs that help us find, filter and use what is out there. In this talk Jim Hendler, one of the inventors of the Semantic Web, will describe this new generation of the web, discuss some of the technologies that will help to power it, and consider some of the ways in which it may be used to create new and powerful web applications beyond the capabilities of the current web.

Jim Hendler is the Director of Semantic Web and Agent Technology at the Maryland Information and Network Dynamics Laboratory. He has authored over 150 technical papers in the areas of artificial intelligence, Semantic Web, agent-based computing and high performance processing and is the incoming Editor-in-Chief of IEEE Intelligent Systems. One of the inventors of the "Semantic Web," Hendler was the recipient of a 1995 Fulbright Foundation Fellowship, is a former member of the US Air Force Science Advisory Board, and is a Fellow of the American Association for Artificial Intelligence. He is also the former Chief Scientist of the Information Systems Office at DARPA, and is a prominent player in the World Wide Web Consortium's Semantic Web Activity.

1:00 pm - 2:30 pm

Implementing Canonical Models in Your Organization

Dave Hollander,
Chief Technology Officer, Contivo, Inc.



Shared business vocabularies, canonicals and related archetype-based information architectures (Common Information Models, Common Object Models and standardized Business Object Definitions) promise to help reduce the significant costs of creating modern integrated business processes.

In this presentation Dave Hollander describes many of the hurdles that companies face when deploying these architectures, and describes how a semantically aware design environment can overcome the hurdles. The talk also includes customer examples of dealing with the differences between relational and XML models.

Dave is a co-inventor of XML. He leads the technical direction for Contivo's integration and metadata management products. Dave co-chaired both the W3C Web Service Architecture Working Group and the XML Schema Working Group. Dave is a co-author of W3C Specification Namespaces in XML, co-author of a book titled XML Applications and technical editor for books on XML Architecture, Web Services, XML Schemas and Semantics in Business Systems. He formerly held senior technology positions at Hewlett Packard, CommerceNet, and Bell Laboratories. Dave graduated with honors from Michigan Technological University.

1:00 pm - 2:30 pm

Dublin Core, Metadata, and Growing the Semantic Web

Ron Daniel,
Principal



Joseph Busch,
Principal, Taxonomy Strategies



The Semantic Web immediately forces us to confront two questions - what is it and how do we get there from here? This tutorial concentrates on the latter question. The Dublin Core has become the de-facto standard for metadata in academic, government, and commercial sectors. This wide base of basic metadata will, of necessity, be the foundation for the early generations of semantic web applications. What opportunities and challenges will that foundation present?

- The tutorial will guide the participant through the major questions:
- What is the Dublin Core?
 - What kinds of Dublin Core metadata should you expect to see?
 - What integration challenges will that present?
 - What extensions to the Dublin Core exist?
 - What best practices should you keep in mind when helping set your organization's metadata direction?
 - How will the base of metadata for the Semantic Web evolve?

Joseph Busch is a Past President of the American Society for Information Science and Technology and a member of the Board of Directors of the Dublin Core Metadata Initiative. He was a principal of the start-up company Metacode that was sold to Interwoven. Ron Daniel is an expert on XML industry standards and an active member of the XML and metadata standardization communities. He has chaired the PRISM working group, has been a member of the RDF working groups, and has co-edited numerous specifications including PRISM, XPointer, three IETF RFCs, and the first two Dublin Core reports.

3:00 pm - 4:30 pm

Bringing Structure to Unstructured Information

Peter Hallett,
Vice President of Marketing, SchemaLogic



While your CRM, ERP, databases and business applications may have a well-managed metadata framework, odds are your unstructured information world is running amok. With portals popping out all over, with a celebration of “arbitrary schema” and little governance over metadata, how can information be discovered, retrieved and integrated? That is, how do you provide some level of standards and governance, some structure to consistently organize the metadata and taxonomies for the multitude of content management and portal applications blooming in response to the flood of unstructured information?

In this session, you learn about:

- Re-use and governance over shared metadata, schema and taxonomies
- Leveraging standards developed for structured systems on the unstructured side of the house
- Using cross-system metadata management to improve enterprise search

Peter Hallett has worked in business intelligence and information retrieval for twenty years, with a focus on information integration, analysis and delivery. SchemaLogic is a pioneering software start-up that helps improve information findability and interoperability via enterprise metadata and taxonomy management. Before working at SchemaLogic Peter worked at Insightful Corporation, where he helped launch a high-end text analysis application called InFact, which through deep indexing based on latent semantic regression, can identify concepts, noun-phrases, actions and relationships for discovery and retrieval applications. Peter has spoken at industry conferences and has published several articles in magazines ranging from EE Times to DM Review to E-Media.

3:00 pm - 4:30 pm

Architecture Patterns for the Enterprise Semantic Web

Jeff Pollock,
Vice President of Technology, Network Inference



As the visibility and maturity of the Semantic Web core technologies evolves pundits have hypothesized that initial uptake will mirror the Web Services rollout and start behind the firewall. In fact, many commercial organizations have already validated this hypothesis and are now deploying Enterprise Semantic Web (ESW) solutions for enterprise customers. The Enterprise Semantic Web is a well-scoped version of the Semantic Web that reduces the complexity of the “WWW virtual database” grand vision. Instead, the ESW provides pragmatic ways that OWL and RDF can be deployed behind the firewall to drive value and payback.

This presentation will explore six key architectural patterns that are being used for developing enterprise scale systems using Semantic Web technologies. These patterns include:

- The RDF Data Repository Pattern
- The RDF Data Wrapper Pattern
- The OWL Data Wrapper Pattern
- The OWL Instance Preclassification Pattern
- The OWL DL Concept and Instance Reasoning Pattern
- The OWL and RDF Hybrid Reasoning Pattern

Whenever possible and appropriate, actual customer case studies and tools will be used to illustrate key points about the architecture patterns.

Jeff Pollock is a technology leader and author of “Adaptive Information: Improving Business Through Semantic Interoperability, Grid Computing, and Enterprise Integration.” (John Wiley & Sons, 2004). At Network Inference, Jeff is responsible for product strategy, management and the envisioning of next-generation adaptive enterprise software. Previously, as Chief Technology Officer of Modulant, he delivered one of the industry’s first market-ready semantic integration middleware platforms in 2001. He is also a frequent speaker at industry conferences, author for industry journals, and an active member of W3C and OASIS.

5:00 pm - 6:00 pm

Ontologies in Action (Special Interest Groups)

These special interest groups are intended as an opportunity for attendees in the FoaF and RSS communities to get together and discuss the latest trends and developments in these popular fields. The sessions will be conducted as part presentation and part group discussion.

FoaF (Friend of a Friend)

FOAF (Friend of a Friend) is all about creating and using machine-readable homepages that describe people, the links between them and the things they create and do. FOAF is an RDF based ontology about people, their interests and their relationships to other people. This session will be a discussion of the many derivative works that have formed from the original FOAF base.

RSS (Really Simple Syndication)

RSS (Really Simple Syndication) is a constellation of ontologies for defining syndicated content for web sites, which is supported by a large number of Blog sites. This session will be an opportunity to explore the role consistent tagging has had on the growth of blogging, and at the same time see how a community has dealt with a myriad number of variations of their standard.



Tuesday, March 8, 2005

10:15 am - 11:15 am

**Semantic Web Services:
Promise Progress and Challenges****David Martin,**
Senior Computer Scientist,
Artificial Intelligence Center, SRI International

The potential of the Semantic Web goes well beyond its applications to information discovery and querying. In particular, it encompasses the automation of Web-based activities and Web-accessible devices as well. When it becomes widespread, the ability to deploy, discover, and use online processing resources and devices, in a significantly automated fashion, will likely be viewed as a major transformation of the Web. Work on Semantic Web Services is complementary with commercial work on Web services, and provides greater expressiveness in describing services in a way that software agents can reason about, in support of more powerful and more fully automated approaches to Web service tasks such as service discovery, selection, invocation, execution, composition, monitoring, and recovery. This presentation will explain the concepts embodied in Semantic Web Services, show how it ties in with developing industry standards, and illustrate its use with examples.

David Martin is a researcher in the Artificial Intelligence Center at SRI International. He has worked extensively in the fields of software design environments, software agent frameworks, and the Semantic Web. In the latter area, he is the chair of the OWL-S Coalition and a co-chair of the Semantic Web Services Language (SWSL) Committee of the Semantic Web Services Initiative (SWSI).

10:15 am - 11:15 am

**The Role of Semantics in Enterprise
Information Integration****JP Morgenthal,**
Chief Services Architect, Software AG

Enterprise Information Integration is a form of semantic integration, which is a technique that attempts to dissipate the semantic dissonance between applications. We can best describe semantic integration as eliminating the nuances between systems due to agreement on vocabulary as it relates to analyzing and understanding data. At a simplistic level one could say that EII and semantic integration are one and the same. So often one of our biggest barriers to integration is the vocabulary or terminology we used to identify data within various systems. Semantic integration uses existing integration techniques to neutralize the barriers due to inconsistent naming and typing and, thereby, simplify the act of making systems work together more seamlessly.

JP Morgenthal is Chief Services Architect with Software AG, Inc. In this role, he provides leadership and direction for the development of products and solutions, in addition to, working with key clients. He is also an expert in the area of enterprise architecture and author of two well-received books on this topic and is author of a forthcoming book on Enterprise Information Integration.

10:15 am - 11:15 am

**Extracting a Practical Drug
Ontology from the UMLS****Mark Sharp,**
Lead Information Management,
Merck Research Laboratories

Information system software increasingly supports features that require terminological ontologies (aka "controlled vocabularies"). Such ontologies not only offer immediate rewards such as synonym conflation for keyword searching, but also have the potential to be further developed into more powerful data structures, up to and including formal ontologies that can support mechanized reasoning. Ontology development is challenging. One approach is to adapt one or more large ontologies which have already been developed for a given knowledge domain. In this paper, we identify several large terminological resources which could potentially be adapted for rapid deployment of a broad coverage drug ontology. We also report the results of a new approach to implementing one of them, the drug/chemical semantic branch of the Unified Medical Language System (UMLS) Metathesaurus, in which we treat the entire lexicon as a coherent thesaurus rather than as a cross-mapping of multiple parallel source terminologies.

Mark Sharp holds a master's degree in biochemistry from Duke and is currently working on his PhD in information science at Rutgers. He began his career as a research biochemist at Saint Elizabeth's Hospital in Washington, DC, then moved to the metabolic diseases lab at NIH. He reformatted the CRISP Thesaurus to conform to the ANSI/NISO Z39.19 thesaurus standard, for which he received the NIH Merit Award and was promoted to head of the CRISP Vocabulary Unit, and mapped the CRISP Thesaurus into the Unified Medical Language System (UMLS), making it one of the first UMLS source vocabularies. Mark moved to Merck research information services in 1994 where he has been a prime contributor to a new system of cross-enterprise controlled vocabularies and other lexical tools.

11:15 am - 12:15 pm

**Semantic Search Using
RDF Metadata****Bradley P. Allen,**
Founder and CTO, Siderean Software, Inc.

One of the underlying goals of the Semantic Web is to provide a basis for more effective information access and discovery than that available on the Web today. This talk will discuss how current efforts utilizing RDF, OWL and emerging vocabulary standards such as SKOS and FOAF are beginning to address this goal. We will describe how information architecture in the service of better access and discovery can be defined in the context of the Semantic Web, and how metadata-based information access techniques such as faceted navigation are being realized in deployed RDF-based applications today.

Bradley P. Allen began his career at Carnegie-Mellon's Robotics Institute. At Inference Corporation he created CBR Express, one of the first case-based customer problem resolution products. He was founder and CTO at Limbex Corporation, where he created WebCompass, an Internet search assistant that won Best Of Show at COMDEX. Bradley was also founder of TriVida Corporation, a Web site personalization application services provider acquired by Be Free, Inc. in 2000.

11:15 am - 12:15 pm

Semantics in Data Warehousing and Integration**Stephen Pace,**
Senior Consultant, Kalido, Inc.

There are three great challenges in building and maintaining a data warehouse: keeping up with changing definitions of the dimensions and categories used in reporting, making sure source systems continue to provide valid and consistently defined data in the presence of change, and allowing reporters to view data either as it is currently categorized or how it was when it was captured. Stephen will demonstrate two techniques that greatly aid in the automation of these challenges. The first technique is to use a high level ontology they call "generic entities" which allows all source data feeds to be described with the same semantics. The second is the use of associative modeling which allows references and categorization to be time dependent, and automates much of the process of building time conformed warehouse structures.

Before transferring to Kalido, Inc., Stephen Pace had over 10 years of experience within Shell IT helping various business units apply technology in effective ways. This included working in a number of areas such as application and web development, database design, and data warehouse consultancy. Stephen has been working with the technology that became KALIDO since the end of 1997, spent almost a year on the development team in London, and has returned to the US in a Pre-Sales Consultancy and Technology Evangelist role.

11:15 am - 12:15 pm

Embracing Dynamic Semantics: A Case Study**Kurt Conrad,**
Co-Convenor, Ontolog Forum**Bo Newman,**
Founder and Executive Director,
Knowledge Management Forum**Bob Smith**
Tall Tree Labs

At their core, Semantic Technologies are based on explicit conceptual models. Highly-formalized ontologies however, run the risk of becoming rapidly obsolete, as changes within the targeted behavioral context, new knowledge, or even new theories drive changes to the underlying logical models. The authors introduce an alternative semantic formalization model that reflects the way that individuals, workgroups, and enterprises associate semantic meaning with knowledge artifacts. By understanding the role of meta-knowledge in knowledge utilization cycles and leveraging the resulting principles, it is possible to use meta-knowledge management as the foundation for semantic formalization. They also show how the formalization of critical meta-knowledge can result in semantic models that are less fragile and flexible enough to reflect new meanings as they are discovered. This flexibility helps preserve the long-term value of knowledge artifacts, enabling both re-contextualization and the creation of new, potentially destabilizing knowledge. Case studies show applications to knowledge representation specifications for the collection of unstructured and semi-structured data.

Kurt Conrad is an independent consultant and co-convenor of the Ontolog Forum. His current focus is in the areas of information policy, governance, conflict resolution, and the management practices needed to support ontological engineering initiatives. Bo Newman is the Founder and Executive Director of the Knowledge Management Forum. He currently serves a Sr. Technical Analyst and Researcher for TECHi2 LLC in Fairfax VA. Bob Smith has over 30 years academic and consulting experience in business strategy and process analysis. His interests include health care policy analysis, trauma center assessment, hazmat software design, and crises management.

1:30 pm - 2:20 pm

Semantic Information Management**Zvi Schreiber,**
CEO, Unicorn Solutions

This session will focus on how semantics are being applied today at leading enterprises to manage data resources - a best practice known as Semantic Information Management (SIM). The talk will show how semantics takes the enterprise from thousands of incompatible data languages to one common business language, captured in an ontology model, without disrupting the underlying data sources. Using federated query technology, the common business language may be converted into a virtual enterprise database, a methodology known as Semantic Enterprise Information Integration (EII). Case studies from leading commercial and government enterprises will be used to illustrate.

Zvi Schreiber has many years of international experience as a software innovator and executive in the US, UK and Israel. He founded Unicorn Solutions, and previously founded Tradeum Inc., which pioneered the concept of business-to-business e-commerce exchanges. Schreiber is the inventor of over a dozen patents and holds a Ph.D. in Theoretical Computer Science dealing with semantics from Imperial College, London.

1:30 pm - 2:20 pm

The Business Value of Semantic Technology**Mills Davis,**
Managing Director,
TopConnexion Initiative, TopQuadrant

When the CIO asks "why bother?" with semantic technologies, what do you answer? You need numbers, backed by experience, and this presentation provides the answers. Through their research of real-world case examples, Mills Davis and TopQuadrant have identified the key application and solution areas for semantic technology. More importantly, they have derived a number of specific metrics which define the key productivity gains, quality improvements and cost savings for semantic technology initiatives. They also have some overall market growth estimates (projected in billions of dollars) and individual market segment breakdowns.

Mills Davis brings more than twenty years experience as a professional services executive, consultant, researcher, industry analyst, and system integrator specializing in new ventures, business development, strategic marketing and proposal development. He advises in all phases of solution delivery including practice management, executive briefing, diagnostic audit, needs and requirements analysis, strategy, business case and ROI, solution design and implementation, training and deployment, transition management, and project management.

For Conference Updates go to: www.semantic-conference.com

Tuesday, March 8, 2005

1:30 pm - 2:20 pm

Designing Controlled Vocabularies for Large Organizations: Taxonomy Development at NASA**Jayne Dutra,**
Web Publishing and Information Architecture,
Jet Propulsion Laboratory

The goal behind building and adopting an agency-wide NASA Taxonomy is to develop a consistent semantic framework for handling NASA's electronic content as a basis for future work with RDF and ontologies. This paper describes the methodology and best practices employed by the National Aeronautics and Space Administration to build an enterprise Taxonomy. Applications and benefits of the NASA taxonomy are discussed in the context of several concrete examples and requirements of the 2002 E-Government Act enacted by the U.S. Congress.

Jayne Dutra has worked at NASA's Jet Propulsion Laboratory for the last seven years, managing software development tasks involving Web applications and information architecture. She also serves as the Knowledge Management Process Owner for the Lab. In 1999, she acted as the team lead for a development effort to create the Agency's first ever portal as a gateway to the JPL intranet, which has been very successful. Jayne is currently working on a task to finish development on a NASA-wide taxonomy for Agency Web publishers. This activity is leading to more work in the areas of ontologies, XML, and Web Services. She currently serves as a Co-Chair for the NASA Webmasters Working Group and is a member of the NASA XML Project.

2:30 pm - 3:20 pm

XML Design for Semantic Transparency**Uche Ogbuji,**
CEO, Fourthought, Inc.

Semantic transparency is the ability for machines to properly interpret the content of documents (similar to "machine readability"). There are techniques in development for ensuring semantic transparency of XML documents, but the foundation for semantic transparency is good XML vocabulary design. Regardless of schema language, query and transform technology, poorly-designed XML leads to systems that are difficult and expensive to maintain, and complicates the automation of the XML processing, never mind its availability to pseudo-intelligent agents. Unfortunately, developers have not tended to take data modeling and XML design as seriously as they take the design of applications code. This presentation covers specifics of good XML design, focusing on areas of concern that affect semantic transparency.

Uche Ogbuji is a computer engineer with over a decade's experience in professional consulting on software development, data design and distributed systems. He co-develops 4Suite, an open-source platform for XML and RDF processing. He is lead designer of the Versa query language for RDF. He is a columnist for IBM developerWorks, Application Development Trends and XML.com. He received the 2003 ActiveState Active Award for outstanding contribution to software development on the topic of XSLT.

For Conference Updates go to: www.semantic-conference.com

2:30 pm - 3:20 pm

Semantic Web for the Front and Back Office: The Enterprise System**John Robert Gardner**
Business Analyst, Availability Component Design
Sun Microsystems

The semantic web has been demo'd for financial industry applications, trolling for money laundering and cooked books; or for genome mapping and treatment testing, taxonomy and annotation, etc. We're doing these applications with our integrated identity, directory, search, and enterprise management system. But we are also applying the same stack to managing back office systems availability data and integrating the preventative and proactive monitoring semantics with front office systems usage for a cohesive semantic interface to all levels and processes of an enterprise.

John Robert Gardner designs availability and preventive services components, prior to which he led Search, Browse and Taxonomy for Sun Microsystems' Portal and Web Services. He has earned a Ph.D. in Sanskrit, piloted a Big Ten electronic dissertation program in XML, and started a large electronic library project for Emory University before joining Sun. He is author of the book "XSLT and XPATH: A Guide to XML Transformations."

2:30 pm - 3:20 pm

Semantic Technology and Model-Based Life-Cycle Support for NASA Space Vehicle Engineering**Ralph Hodgson,** Executive Partner
TopQuadrant

Large enterprises have demanding requirements for semantic collaboration to enhance project communication and reduce mission risk. The key element in this approach is establishing an Ontology Architecture for enterprise-wide, model-based life cycle support of engineering activities. We will present COVE, a Collaborative Ontology Visualization and Evolution environment, for managing, browsing and reusing ontologies, and for exporting ontologies to embed in enterprise systems. COVE has shown how it is possible to gain more flexibility and control over data by moving from a document-centered approach to a model-driven approach to information sharing. An important aspect of the work is "Visualization", which is proving to be a key capability in ontology-based environments. The talk will illustrate the NASA ontology architecture with specific examples from the Space Shuttle and future Space Vehicle Initiatives.

Ralph Hodgson has over 25 years experience in enterprise systems design, consulting, software development and methodology development. Most recently, he held executive consulting positions at IBM Global Services. Prior to IBM, he was founder and Managing Director of Interactive Development Environments, an international CASE tools vendor. He is a recognized thought leader in the object technology community.

Wednesday, March 9, 2005

8:30 am - 9:20 am

Building Better Enterprise Message Models with Semantics**Fran Clark,**
President, Arpeggio Technology**Simon Robe,**
Senior Consultant, Semantic Arts

Service oriented architectures (SOA) and XML messaging are becoming standards for "data in motion" among e-business applications. As a result, important data is now moving across physical networks and across semantic boundaries instead of inside traditional data repositories. The establishment of an enterprise message model is essential to the successful implementation of business applications based on SOA. This session describes how the use of semantics-related techniques and technologies can augment structural representations (e.g. XML schema) to produce enterprise message models that are more aligned with fundamental business concepts. Semantically enriched message models can improve success rates for SOA projects.

Fran Clark leads a consulting practice focused on service oriented architectures and semantic modeling approaches. He has had technical leadership positions at Intel, Boston Gas, UNUM and John Hancock; and conducted enterprise projects at IBM, Major League Baseball and General Electric. Recently, as VP of Technology at Swingtide, he led the development of a software product for modeling and monitoring SOAs. Simon Robe has twenty years experience as a systems architect, database designer, systems analyst and project manager. His recent engagements have been on enterprise architecture projects, focusing on leveraging message-based and service oriented integration techniques in data warehouse and business intelligence solutions.

8:30 am - 9:20 am

Business Applications of the Suggested Upper Merged Ontology**Adam Pease,**
CEO, Articulate Software

This talk will discuss applications of the Suggested Upper Merged Ontology (SUMO). SUMO is the largest formal, open source ontology available today, with 20,000 terms and 60,000 axioms covering both upper level concepts and a range of domains. It has been mapped to all of the WordNet English lexicon to support language understanding applications. Reuse of information is as critical as reuse of software libraries. Having precise definitions for terms in an ontology is also crucial to realize the advantages touted for the semantic web. This talk discusses upper ontologies and the value of ontology reuse, as well as the requirements and benefits for formal definitions of terms in an ontology. A range of current applications of SUMO are described along with a roadmap for applying SUMO to new domains.

Adam Pease was Program Manager and Director of Knowledge Systems at Teknowledge, where he led research in ontology, linguistics and formal inference, including development of the Suggested Upper Merged Ontology (SUMO). He has published over 30 papers.

8:30 am - 9:20 am

Removing Technical Bias from Semantic Conceptual Modeling of Business Information**Harry Ellis,**
Senior Consultant, Information Coherence,
British Army

This talk shows how the British Army is using semantic modeling to gain control over the information content of major systems. It concerns the sharing of information between allied military forces - information about things like terrain, equipment, capability, command structures, orders, targets, status and location. It addresses one of the main causes of delay and overspend in the procurement of new information systems. The objective of this research was to find a way of modeling information that is entirely free of bias toward any software product or design. This freedom from technical bias is needed to enable the British Army to control the information content of systems where the design authority is vested in an external contractor. The talk shows that the key to such control lies in rules that govern the use of different types of information to describe and further categorize each type of thing.

Harry Ellis is an independent consultant and advisor to the British Army on the technology of information management. His pioneering role in data management extends over 40 years including 10 years as Chief Database Consultant and Manager Data Handling Systems for International Computers Ltd (Fujitsu). As an independent consultant he has led information system strategy studies for Ford and Mobil, and provided extensive advice to the UK Government and NATO.

9:30 am - 10:20 am

Semantic Technology Research at the Digital Enterprise Research Institute (DERI)**Christoph Bussler,**
Executive Director, DERI**Stefan Decker,**
Senior Research Fellow, DERI

DERI is one of the largest research institutes in the Semantic Technology area. This presentation will present an overview of the ongoing projects and results in various areas, including:

- The Semantic Web Search Engine
- The Web Service Modeling Ontology
- The Web Service Modeling Execution environment
- The Multi Meta-Model Process Execution

Christoph Bussler is Science Foundation Ireland Professor at the National University of Ireland, Galway and Executive Director of DERI. He leads the Semantic Web Services research group at DERI. He has authored over 60 research papers and 3 books. Stefan Decker is senior research fellow with interests including the Semantic Web, Semantic Desktop, Social and P2P Networks, interoperation and mediation. While at Stanford and USC he did seminal work on Ontology Languages (DAML+OIL), Query Languages (TRIPLE) and P2P systems (Edutella).

For Conference Updates go to: www.semantic-conference.com

Wednesday, March 9, 2005

9:30 am - 10:20 am

Ontological Semantic Cognitive Data Measurement and Business Intelligence**Adrian McKeon,**
Managing Director, Infoshare Limited

A new type of non-relational database optimised for data measurement has been designed whose purpose is to keep data accurate and current, and of proven pedigree and fitness to drive business intelligence applications. Ontological, semantic and cognitive business rules link data together at the individual character level - traditional table to table links are not used. These rules exist at the deepest level of granularity thereby providing the richest possible repository of metadata which end users exploit to assess and measure data, to calculate the difference between existing data quality and 100%, identify where the problems are and track back to fix them. Over 200 government and private sector organizations are now using this approach.

Adrian McKeon is Managing Director and joint founder of Infoshare Limited. He helped to design and implement its unique data measurement technology. This links data from different sources using semantic and cognitive rules – instead of traditional “table to table” relational links – and exploits this rich metadata repository to generate data measurement metrics.

9:30 am - 10:20 am

Governance and Synchronization of Enterprise Vocabularies: A User Perspective**Kevin Lynch,**
Knowledge Architect, Raytheon

Most large enterprises have a multitude of largely independent databases, content management systems, applications and portals. At one large manufacturing company, coordinating shared taxonomies, metadata schemas, and vocabularies proved too difficult and expensive to continue the status quo as the number of content management systems grew from dozens to hundreds. With an eye on consistent tagging, faster change management and governance across systems, the business information services team implemented an enterprise taxonomy repository to support consistent tagging, retrieval and navigation across systems.

Kevin Lynch has 15 years in software engineering, executive and project management, and consulting roles. He has a Ph.D. in MIS from the University of Arizona. Kevin was the Project Manager and database architect for COPLINK, a national data-warehousing project to integrate law enforcement databases, which became a national model for intelligence sharing between agencies. As a Knowledge Architect for Raytheon, his focus is on semantic infrastructure for systems integration.

2:00 pm - 2:50 pm

The Model Driven Semantic Web: Emerging Technologies and Implementation Strategies**Elisa Kendall,**
CEO, Sandpiper Software

The OMG, as part of MDA, has defined a metadata architecture that provides a basis for automating metadata management. Metadata, in this context, includes database schema, UML models, workflow models, business process models, business rules, API definitions – all based on the Meta Object Facility (MOF). MDA and Semantic Web were conceived independently and evolved with little cross-pollination. However, recently, participants from both communities have begun bridging the two technologies to form a coherent information interoperability architecture. The main realization of this is the Ontology Definition Metamodel (ODM) standard.

Elisa Kendall has over 25 years professional experience in development and deployment of enterprise information systems for communications, high technology, and aerospace applications. She is the principal architect of Sandpiper's UML-based knowledge representation, ontology analysis, and reasoning architecture. She is a key contributor to standards efforts including OMG's Ontology Definition Metamodel (ODM).

2:00 pm - 2:50 pm

Semantic Discovery in Semi-Structured Data**Ed Green,**
Chief Technology Officer, Silver Creek

Semi-structured data is the heart and soul of any enterprise data environment. It ranges from weakly typed sequences of characters to nearly free form text. The ability to discover semantic meaning at the record level in semi-structured data is a critical enabler for connecting business systems. Data that is intended for human understanding needs to be transformed from a system-specific definition to one semantically intended for human use. This can include text standardization, attribute identification, and even language translation. Semi-structured data often lacks the necessary consistency necessary to aggregate the disparate information. If the data can be standardized based on the associated semantics, then meaningful aggregation of this data can be achieved using semi-structured data in the role of foreign key information. Semantic understanding of semi-structured data at the record level is the only practical way to provide both system-to-system and system-to-human data compatibility.

Ed leads the ongoing technology vision for Silver Creek. He was previously the VP of development and CEO at Cadis, Inc., one of the first parametric search engines. Before Cadis, Ed was a founder of GrafTek, a solids modeling CAD/CAM company. Ed holds a joint PhD in physics from University of Pittsburgh and Carnegie Mellon University.

2:00 pm - 2:50 pm

Taxonomy and Metadata at United Parcel Service (UPS) – World Wide Code Repository and Corporate Code Tables



Barbara LaRobardier,
International Data Administration Analyst,
United Parcel Service

This presentation is a case study in the development of a codes (metadata) repository by one of the world's leading data management organizations. Based on the data identified in the enterprise data models, UPS created a World Wide Code Repository (WWCR) database on a DB2 platform to store the metadata used throughout the corporation within its information/application systems. They also designed a Corporate Code Table Database in DB2 (replicated in ORACLE and SQL Server) which is populated via extract files from the WWCR. These tables are populated with the complete list of standardized corporate code values for each code type.

Barbara has been in data resource management at UPS for 13 years. She is currently the data steward of the World Wide Code Repository and data modeler of the Corporate Code Table Database. This position includes primary contact to the ISO (International Organization of Standardization), BSI (British Standards Institute), ANSI (American National Standards Institute), United Nations, etc.

3:00 pm - 3:50 pm

Business Rules in Action



Terry Moriarty,
President, Inastrol, Inc.

The Object Management Group (OMG) and Business Rules Group (BRG) have combined their activities towards developing standards for expressing the business semantics for business rules. The W3C Semantic Web standards can be aligned with the Business Rules Approach through a business rule grammar based on the structure of the English language. The grammar addresses the relationship between business concepts, terms and facts that parallel the triples from RDF and OWL. The business rule classification scheme of Eligibility, Validation, Domain, Process and Computation correspond to the rules supported by RML.

Terry Moriarty has enjoyed a diverse IT career. She has developed a methodology that integrates business rules analysis with the meta-data management environment to address major business concerns, such as Customer Relationship and Product information management. Her dynamic business models have been used as the basis of customer models for companies within the financial services and telecommunication industries. Ms. Moriarty is the co-chairperson for the annual Business Rules Forum.

3:00 pm - 3:50 pm

Semantic Web and Ontology Technologies in the Context of Emerging GRID Computing Infrastructures



Geoff Brown,
Director for Advanced and Emerging Technologies,
Oracle Corporation

This technical presentation focuses on how Semantic Web and Ontology technologies are being used in the context of emerging GRID Computing based infrastructure. Success from early adopters has highlighted the importance of MetaData based repositories as a focal point for semantic adaptability, blending XML, SQL, RDF and OWL to provide context for higher level application services. The presentation based on case studies, provides valuable lessons for those wishing to understand how to build a semantic metadata repository which scales with very fast processing times, a key attribute to the emerging "system-of-systems" (SoS) architecture.

Geoff Brown from Oracle Corporation is the Director for Advanced and Emerging Technologies, and is currently focussed on GRID, SoS and Semantic based computing. Geoff is a well known global speaker, writer and trusted advisor to Oracle's strategic accounts.

3:00 pm - 3:50 pm

Providing Semantics Using Fuzzy Set Methods



Ronald Yager,
Director of the Machine Intelligence Institute,
Iona College

The goal in this presentation is to describe the emerging applications of fuzzy logic and related technologies within the semantic web. Using fuzzy sets, we are able to provide the underlying semantics for linguistic concepts. We show how this framework allows for the representation of the types of imprecision and uncertainty characteristics of human conceptualization. The construction of ontologies using fuzzy set tools is discussed. We illustrate the application of soft matching and searching technologies that exploit the underlying semantics provided by using fuzzy sets. We look at question-answering systems and point out how they differ from other information seeking applications, such as search engines, by requiring a deduction capability. In this talk we suggest tools to provide these capabilities. We describe how the fuzzy set based theory of approximate reasoning can aid in the process of representing knowledge.

Ronald R. Yager is considered one of the world's leading experts in fuzzy sets technology. He has published over 500 papers and fifteen books on this and related topics. He was the recent recipient of the IEEE Computational Intelligence Society Pioneer award in Fuzzy Systems. Dr. Yager is a fellow of the IEEE, the New York Academy of Sciences and the Fuzzy Systems Association. He is editor of the International Journal of Intelligent Systems.

Thursday, March 10, 2005

8:30 am - 9:20 am

The Policy Aware Web

James Hendler,
Professor, University of Maryland



Trends in both technology and public policy are enabling greater aggregation of data across a wider and wider range of data sources, creating the demand for an increased level of accountability regarding access to aggregated data. Privacy concerns require that users be given the ability to control access to both raw data and processed analytic results, creating information repositories that respect security policies based on complex combinations of rules, rather than on keyword combinations or simplistic access controls. Our work focuses on using Semantic Web technology to provide an infrastructure that allows access policies to be defined and executed in a scalable way based on web protocols and emerging Semantic Web standard languages. This is joint work with Tim Berners-Lee and Daniel J. Weitzner of MIT's Computer Science and AI Laboratory (CSAIL).

(See page 6 for Jim Hendler's biography)

8:30 am - 9:20 am

The Semantic Broker as e-Commerce Enabler

Henry Meeter,
Founder, Integrity GmbH



Christian Fillies,
Founder, Semtation GmbH



In a TopQuadrant report on "The Business Value of Semantic Technologies," we find that, of all those "business domains where semantic technologies can deliver value" (with an anticipated compound annual growth rate "approaching 70%" over the next seven years), Product Lifecycle Management is expected to be one of the greatest contributors. This paper highlights the critical disjuncture between different but essentially incongruous islands of product information today, and it describes how the vision of the single, central digital product might be reached through the application of semantic discipline. More specifically, it describes how the once much hyped, but now apparently "deceased" vision of the Trading Exchange – either public or private – as the primary e-Commerce enabler might be resuscitated through the application of Semantic Brokers as the standardized business rule processing engines (or product configurator dispatchers), finding and trading products on the basis of ontological descriptions.

Henry (Henk) Meeter is a founder of Integrity GmbH, a consulting firm where he is responsible for product configuration consulting and also lead architect and developer for Integrity's product modeling tool, Integral, an application for drawing products as highly formal ontologies, in directed graphs. He is also Managing Editor of the Configuration Work Group Review. Christian Fillies is the founder of Semtation GmbH a leading provider of process and ontology modeling tools. His current product SemTalk has been recognized to make Semantic Web technology applicable by end users familiar with MS-Office. He has applied AI technologies in real world modeling products since the early nineties.

8:30 am - 9:20 am

MDDQL: An Ontology Driven, Multi-lingual Query Language and System for an Integrated View of Heterogeneous Data Sources



Epaminondas Kapetanios,
Co-Director, Plirosoft GmbH, Semantic Technologies

MDDQL is a query language that operates on a semantic model level in terms of a frames-based ontology. To this extent, typing of query terms while constructing a query becomes obsolete. End-users are driven by suggestions of semantically coherent query terms made by the system with respect to the semantics (relationships, constraints, business rules, etc.) of a particular application domain. The MDDQL query language and system operates with more than one natural language in which the ontology can be expressed, while guaranteeing equivalent query results, and with all kinds of operators. In addition, the high level query can be easily transformed into data source specific sub-queries, e.g., SQL, XQuery paths, according to the number of addressable heterogeneous data sources, the execution of which leads to partial results that are, finally, merged into integrated views of data.

Epaminondas Kapetanios is co-director of Plirosoft Semantic Technologies GmbH, a newly founded spin-off company of ETH Zurich. He completed his Ph.D. Thesis at the Institute of Information Systems, Dept. of Computer Science, ETH-Zurich. He has authored and published more than 30 articles and papers in books, journals and well-established conferences.

9:30 am - 10:20 am

A Tale of Two Models: From ER/UML to Semantics

Greg Congleton,
Manager, Enterprise IT Architecture, Tennessee Valley Authority



Eliezer Israel,
Information Modeler, Unicorn Solutions



Greg Robinson,
Consultant, Xtensible Solutions

The Tennessee Valley Authority (TVA) is using a combination of tools and models to capture and represent the semantics of its information. Two models form the basis of this effort - (1) An Enterprise Data Architecture (EDA) created in standard Entity-Relationship format via Erwin and (2) A utility industry standard Common Information Model (CIM) expressed as a UML class model in Rational Rose. These two models are reconciled using a semantic modeling tool. Once the two models are semantically integrated, the project level metadata assets of the agency are mapped to the central information model. The mapping with its accompanying business rules accurately expresses the semantics of TVA's information.

Greg Congleton has 30+ years experience in the areas of IT architecture, data and metadata management. He has published in the "DataBase Newsletter" and presented on metadata repositories at the IOUG. Eliezer Israel has built industrial-strength information models and taught courses in semantic modeling to Fortune 100 data administration teams. Greg Robinson helps utilities plan and implement enterprise-wide Model-Driven Integration (MDI) infrastructures. Greg is convener of IECTC57 Working Group 14 (System Interfaces for Distribution Management) and US Representative on TCS7 Working Group 13 (EMS API).

9:30 am - 10:20 am

LATE BREAKING NEWS!

We fully expect there will be some important semantic industry announcements between now and the time of the conference, so we've saved this timeslot to discuss them. Watch the conference web site for further details as they emerge. For *Conference Updates* go to: www.semantic-conference.com.

10:30 am - 11:45 am

The Future of Semantic Technology

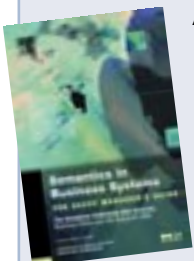
**Dave McComb, Jim Hendler,
Dave Hollander**



This final conference session is where everything comes together...three and a half days of discussion, PowerPoint, networking and learning. So what does it all mean to the future of the emerging Semantic Technology industry? In this final conversation - structured, but unconstrained - conference chairman Dave McComb is joined by a number of the conference's key speakers and contributors so that we can analyze the information that has been presented at the conference and advise you on what it all means. Which presentations provided the most insight? Which ones unearthed a killer app? Which research project holds the most promise? What lunch-time conversation gave away the most valuable secret? Which new company created the most buzz? Just...whatever you do...don't leave the conference early!

11:45 am - 12:00 noon

**CHAIRMAN'S CLOSE:
CONCLUSIONS, SUMMARIES, PROJECTIONS,
PREDICTIONS and WILD SPECULATION**

EARLY REGISTRATION

All paid conference attendance registrations made on or before December 31, 2004 will receive a free copy of Dave McComb's book *Semantics in Business Systems* published by Morgan Kaufmann. Books will be distributed to qualified recipients when they arrive at the conference.

AIRFARE DISCOUNTS

Significant airfare discounts to Los Angeles from U.S. and Canadian cities can be booked through Journeys Abroad, the official conference travel agent. Call 1-800-448-8150 or 310-446-4811 between 9:00 a.m. and 5:00 p.m. pacific time, Monday through Friday, and mention that you are attending the Semantic Technology conference. Discount fares are subject to availability, and certain conditions apply.

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PAYMENT POLICY: All registration fees must be paid in US Dollars. Full payment must be made prior to attendance at the conference. It is strict policy that only U.S. government employees may submit training authorization forms in lieu of prepayment.

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SCHEDULE: While every effort will be made to maintain the schedule exactly as represented in this brochure, we reserve the right to make changes and substitutions as needed.

SPECIAL 10% DISCOUNT for Groups of 3 or More!

- To qualify, the group members must be with the same organization and register at the same time.
- If registering a group online, please select a "group primary contact" and a "group leader." They should be the same person unless the primary contact is not attending her/himself (such as a departmental coordinator). The "group leader" must be an attendee. You will be asked for this information during each group member's registration. Step-by-step instructions for registering groups online may be found at the conference website.

HOTEL RESERVATIONS

Please contact the hotel to make your reservation:
The Stanford Court Hotel
905 California Street, Nob Hill
San Francisco, CA 94108

Telephone: (800) 227-4736 or +1-415-989-3500

A Group Block has been made for a specified number of rooms at the Stanford Court Hotel. A discounted rate of \$139 (single/double) for a "Superior Room" or \$169 (single/double) for a "Deluxe Room" is available when you ask for the "Semantic Technology" group rate. The deadline for a hotel reservation at this discounted rate is Monday, February 7, 2005, however the Hotel may SELL OUT earlier than this date.

Superior rooms have interior/courtyard views. Deluxe rooms have exterior/city views. If registering online, use the following "Group" booking codes:

SMASMAA - Superior (interior/courtyard views)
SMASMAC - Deluxe (exterior/city views)

There is a link to the online hotel registration on the conference web site (www.semantic-conference.com) or you can go directly to this URL: <http://marriott.com/property/propertypage/sfosc>

