# Stan Hendryx

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## Architect/Engineer of Business Modeling and Semantic Integration

## Education: Bachelor of Science and Master of Science, Massachusetts Institute of Technology, Electrical Engineering

## Business Modeling & Tools Background

- **Strategic Advisory Board, European Digital Business Ecosystem (DBE) project (2005).** The DBE project is one of the most important research initiatives in the area of e-business at the European level. The DBE is a framework for e-business, catering to B2B interactions of small and medium enterprises (SMEs), which account for 50% of the gross domestic product of the European Union, and over 90% of all businesses in the EU. It is the objective of the DBE, an integrated project of the European Commission Framework Program 6 involving over 100 professionals in five countries, to increase the productivity of this critical segment of the European economy through application of open source technology and the Internet. In the DBE, services of several SMEs can be integrated to provide unique composite services and point-to-point collaborations. The DBE is making extensive use of my Architecture of Business Modeling for its natural language service definitions and service queries, using SBVR (below). Thousands of SMEs from all over Europe are expected to register their business models to facilitate service discovery and collaboration. Effective semantic integration of the SME natural language business models, provided by the Architecture, is essential to success of the DBE.

- **Founder (2002) of the Object Management Group (OMG) Business Rules Working Group; co-chair OMG Business Modeling & Integration Domain Task Force; co-chair OMG Business Process Modeling & Integration Steering Committee.** Proposed creation of and organized a Business Rules track in the OMG. Lead the group to create the Business Semantics of Business Rules (BSBR) RFP and Production Rule Representation RFP. Authored the Architecture of Business Modeling (2003) adopted by the DBE project. Instrumental in attracting vendor companies in the Business Rule Engine space and Business Process Management (BPM) space to join the OMG and contribute to the new business modeling standards focus of the OMG.

- **Co-submitter, Semantics of Business Vocabulary and Business Rules (SBVR).** Organized the Business Rules Team (BRT) consortium to respond to the BSBR RFP. The BRT comprises a team of business rules experts, business consultants, logicians, linguists, and computer scientists from the US and Europe. SBVR is a breakthrough interdisciplinary work that provides for language-independent capture of the meaning of natural language vocabulary and rules, based on formal logic, and for interchange using OMG Meta Object Facility (MOF) and XML Metadata Interchange (XMI) standards. SBVR is an integral part of my Architecture of Business Modeling. Action by the OMG to adopt SBVR as an OMG specification is expected in 2005.

- **Co-submitter, Organizational Structure Metamodel (OSM) (2005).** Submitted a proposal for an Organizational Structure Metamodel specification that is based on the use of natural language vocabulary and SBVR. OSM is intended to provide a standard

for modeling organizations, responsibility, and authority. Currently participating with other co-submitters to merge the natural language concepts into the final specification.

- **Seminars on Business Modeling, University of Lecce (Italy) and Salzburg Technical University (Austria), 2004-2005.** This series of seminars focuses on the Architecture of Business Modeling and SBVR, from the point of view of formal language design and tool design, with emphasis on application in the DBE. Topics include shared vocabulary and semantic integration, authoring, validation, and querying of natural language business models.
- **Developed Model-based Business Engineering™ (MBBE) (2000-2001)** to design business databases and business logic using UML and generate directly from the model the DDL and EJB code to implement the design. Applied MBBE to design a theatrical distribution system for DreamWorks SKG motion picture studio. This system is used by DreamWorks to book pictures in theaters throughout the US and Canada. Over 99% of all the DDL and EJB code for the system was generated directly from the MBBE models.
- **Reviewer, UML 2.0 specification.** As part of the OMG UML 2.0 Evaluation Team, reviewed parts of the UML 2.0 specification during its drafting, and provided comments to the authors.
- **Contributor, OMG Model Driven Architecture™ (MDA) Guide.** Contributed material for the MDA Guide on Computational Independent Modeling (CIM). These works, together with the Business Rules work mentioned above, helped to structure and inform the CIM layer of the MDA and focus attention on it.
- **Syndicated columnist on the topic of OMG and Business Rules.** I write periodic articles for online journals *Business Process Trends* and the *Business Rules Journal* about OMG standardization activities related to business rules and business modeling. These articles have followed the evolution of the OMG's standardization work on business vocabulary and rules, and are increasingly focused on business modeling, including business process modeling, organizational structure modeling, business motivation modeling, and shared business vocabulary, all of which are underpinned by the natural language facilities of SBVR.

## Employment

**Career focus: Business Process Design and Management through Modeling**

- **Founder and Owner, Hendryx & Associates, Sunnyvale, California (2000 to present).** Consulting business with focus on business modeling, analysis, and system design from models. (*See* Business Modeling & Tools Background, above.)
- **Director, Business Partnerships, Nortel Networks, Santa Clara, California (1999).** *e*-business planning for the integration of the $3.5 billion acquisition of Clarify, Inc., and Periphonics by Nortel Networks. I identified and introduced two of the five system integrator firms that signed letters of intent to partner with Nortel. My main role was to assist in planning the operation of these partnerships as Nortel's $3.5 billion acquisition of Periphonics, Inc., and Clarify, Inc., unfolded.

- **Senior Manager, KPMG LLP, Mountain View, California (1995-1999).** Project life cycle and profitability responsibility as engagement manager, project lead. Responsible for client relationships, proposals, sales, delivery.
  - Developed a consulting practice to address opportunities in the convergence of Internet, telephony, and television using broadband networks.
  - Sold and managed a series of engagements with Philips Semiconductors over two years, developing applications for managing transfer prices and cost accounting in a global supply chain, based on Web/Java technology and Oracle database. Was the architect of the systems, which I designed using UML. I was also the engagement manager. The system enabled the client to decommission an expensive, outdated system, reduce accounting errors, and improve the quality and frequency of price updates with less than half the staff.
  - Assisted TransAmerica Leasing in evaluating a proposed new business opportunity in air container leasing. The evaluation, which involved analysis and simulation of the proposed world-wide logistics operations, resulted in a significant redirection of the opportunity and subsequent successful business launch.
  - Assisted Siemens Communications, a leading supplier of business telecommunications systems, in redesigning its quote-to-cash business process.
- **Manager, Oracle Corporation (1994-1995).** Internal consultant for systems architecture and business process reengineering, reporting to the Sr. Vice President and CIO. Supported the globalization of Oracle's business processes and systems, including sales force automation, world-wide support, and financial accounting. Specific accomplishments:
  - **Organized a high-level business process reengineering exercise for global order fulfillment, resulting in increased corporate-wide awareness, cooperation, and focus on major tasks needed to globalize this critical business process.**
  - Developed a Common Product, Pricing, and Customer data model for Oracle, and used the model to guide a cross-functional team in redesigning Oracle's bills of material for global use.
  - Developed innovative approaches to using Oracle Manufacturing in the Oracle Data Center, in Oracle's Product Division, and in Manufacturing & Distribution. Assisted with project management of Oracle's first Sales Force Automation project.
  - Served as steering committee member for order fulfillment reengineering -- from first contact with a prospective customer to the booking of an order.
  - Designed a global customer database, based on Oracle Cooperative Applications and Oracle's new Symmetric Replication technology – this was the first application of Symmetric Replication by the Office of the CIO.
  - **Member of a Headquarters team to develop licensing and pricing strategy for Oracle's growing shrink-wrapped products business.**
  - Introduced Oracle's own modeling tools into use in projects in the Office of the CIO.

- **Manager, Systems Architecture, Raynet Corporation, Menlo Park, California (1992–1994).** This start-up manufacturer of fiber-optic communication gear for the local telephone loop was seeking to put in place a state-of-the-art manufacturing and logistics system. I was assigned responsibility for Manufacturing Systems architecture.
  - Developed the information systems architecture for manufacturing operations, including production planning, process data management, and shop floor control.
  - Developed architecture to integrate product planning and forecasting, production planning, and order management systems, and using the data warehouse.
  - Developed and implemented a data warehouse, containing 101 tables of up to 100MB each, automatically updated nightly from the DEC/VAX-based ASK information system. The highly automated Warehouse was in operation three months after project start, resulting in greatly increased management reporting capability and timeliness. Key features included CODASYL to Relational data mapping, high-performance pipe-and-filter architecture for data distribution, and an innovative fiscal calendar index to simplify aggregate queries.
  - Introduced Object Oriented Analysis based on the Shlaer-Mellor Methodology and modeling tools to formally evaluate and document business system requirements and model the data warehouse. (This was the project that got me hooked on modeling.)
- **Manager, Systems & Industrial Engineering, AT&T Microelectronics, Lightwave Business Unit, Reading, Pennsylvania (1991-1992)**
  - Supervised the Industrial Engineering Group in this III-V Wafer Fabrication Facility.
  - Developed and implemented systems to track interplant in-process product movements.
  - Led a group to select a software development environment for business applications.
  - Member of a strategic business planning project team.
- **MTS Supervisor, Manufacturing Systems Engineering Department, AT&T Bell Laboratories, Murray Hill and Princeton, New Jersey (1982-1991)**
  AT&T (now Lucent) needed to re-invent its manufacturing operations and systems to remain competitive following its court-ordered breakup. I served as an internal consultant and project manager to AT&T manufacturing organizations for process reengineering. This effort reduced manufacturing intervals and inventories by 80%, and reduced losses from quality problems by 90% in the processes where it was employed. Manufacturing ceased being the "bottleneck" in these businesses.
  - I developed Just-In-Time (JIT) production methods and system designs for a variety of process and assembly operations employed in nearly $1 billion of production annually in factories in Denver, Omaha, Richmond, Winston-Salem, Boston, Singapore, and Bangkok. I was the project manager in all but the Denver project, from proposal to completion.
  - In collaboration with the Operations Research Department, developed a unique algorithm for sequencing production orders to create short-term statistically level utilization of production facilities.
  - Contributed, in the Computer Science Department (developers of UNIX and C), to the development of AMPL, which is a system for specifying constraint matrices for optimization solvers, such as linear programming. I designed the first test cases, based on manufacturing optimization problems I was dealing with, and contributed to the technique of mapping AMPL index sets to database schemas to automate the population of large matrices.

- Published two articles in the AT&T Technical Journal relating to the theory and practice of manufacturing process management.
- Gave talks about JIT and Total Quality Management to about 5 industry and trade groups, and delivered a series of seminars about JIT at several AT&T manufacturing locations.
- Performed system architecture and business process reengineering studies for production planning and control for integrated circuit manufacturing.
- Member of the successful GE/AT&T proposal team for the $1 billion system integration contract for the US Strategic Defense Initiative (a.k.a. "Star Wars"). I developed an innovative approach to logistics management of the complex SDI materiel production process; the AT&T logistics plan was said to be significant in the decision of the Government to award the contract to GE/AT&T. (SDI was subsequently cancelled upon the collapse of the Soviet Union and the end of the Cold War.)
- Consultant to proposal team for replacing aged outside plant (telephone wires) with fiber optics in New York City (largest concentration of telephony infrastructure in the US). My role involved logistics planning and management.

## Personal and Technical Summary

- Strong interpersonal and communications skills, public speaking, publications.
- Visionary, creative -- high energy and enthusiasm.
- Modeling: UML, MOF, ORM, ER, BridgePoint, Rose, Shlaer-Mellor Object Oriented Analysis.
- Software: MS Office (including APIs), MS Project, Versata, Oracle Applications, ABT.
- Hardware: PC, Apple, Sun.
- Operating Systems: UNIX, Windows NT, XP, Solaris, DOS, Win32, MacOS.
- Languages: C, C#, C++, Java, SQL, Eiffel, Parlanse, VB, PL/SQL, SQL Plus, Bourne Shell, AWK, ASM.
- Networking: TCP/IP, LDAP, ATM, Frame Relay.
- Databases: Oracle, Ingres, DB2.