GREGORY M. STANLEY

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SUMMARY

Proven business-results oriented executive manager and leader in exploiting new technology opportunities, with years of hands-on technical and management expertise in object-oriented software development and professional services, fault diagnosis, operations management, process control, and chemical engineering. Define new products. Plan, hire, and manage organizations to build profitable products and services. Personally fill in gaps in the organization as needed. Strong technologist, with an emphasis on real-time, object-oriented software for operations management: automation/process control, fault management (Abnormal Condition Management), workflow management, network management, IT, AI, engineering. Improve high-technology business and marketing strategy and sales support. Develop products for the process industries and Network/Systems/Applications/Service management, based on Java, .NET, G2, and web technologies.

EXPERIENCE

Integration Objects (Houston, TX) www.integrationobjects.com/ **9/07-**

Advisor/Acting VP of Technology. Lead requirements and design, and establish methodology for implementing advanced applications, such as knowledge management based systems and operations performance management, primarily for process plants such as refineries. Assist in preparing marketing materials, proposals, and white papers. Led technology requirements and design for the KnowledgeNet product used for plant business and operations performance management. Requirements, design, and implementation of an abnormal condition management system for the Takreer refinery, Abu Dhabi.

Greg Stanley and Associates (Houston, TX) www.gregstanleyandassociates.com/ **5/01-**

Professional services for Operations Management, including software and applications development, market analysis and product definition, project management, business plan development, technology audits, and training. Results included requirements and design for SAT (www.sat-corp.com), SmartSignal (www.smartsignal.com), and a startup based on workflow technology. SmartSignal work focused on a web-based GUI for fault detection in jet engines and pipelines. The other two focused on workflow management, including workflow management with wireless, handheld computers.

Gensym Corporation (Cambridge, MA; Houston, TX) www.gensym.com/ **9/87- 4/01**

Leading real-time intelligent systems company. Started in 1986, IPO in 1996. Originally based on G2, which is a real-time, object-oriented language and development environment similar to Java.

VP, Technical Operations (Houston, TX) **1998-2001**

Director, Technical Operations, e-Infrastructure/Communications Business Unit (Houston, TX) **1996-1998**

Managed product development, consulting services, and solutions engineering (pre-sales). Engineering development manager, chief architect, and product manager. Managed full development cycle. Led team for "whole product", including QA, documentation, customer support, training. Initiator and prime driver in establishing, planning, and managing new products and services in network, system, application, and service management. Provided market analysis studies and other support, strategic planning, sales support, sales training, and liaison with academic consortia and key customers such as BMC and Iridium. Established development procedures.

- *Built new business unit with $18M/year revenue, 1/2 of Gensym business, 45% sales growth.*
- *Hired team, growing from 0 to 20.*
- *Initiated and built Integrity (formerly OpEx), an object-oriented platform for management of networks, systems, applications, and services – jump-starting the business unit. Its strength is fault management (root cause analysis, event correlation, etc.) at and between any layers in the TMN hierarchy, and also IT management. It is based on an object-oriented server in G2, Java agents, a Java/Swing client, a web browser/HTML interface, and integrated with SNMP, HP OpenView, and other systems. It includes graphical specification for fault models, procedures/workflows, and state diagrams; an object repository representing managed objects, reasoning engines for event correlation, root cause analysis, impact prediction; and a graphical workflow language automating testing and corrective actions. Integrates Apache web server, Java servlets, JSP, XML, HTML.*
- *Initiated, specified, developed, managed SymCure product for automating diagnosis and testing. It performs event correlation, root cause analysis, and impact prediction based on generic fault models. Led to Gensym's largest sales and consulting projects - core root cause analysis technology for Iridium and BMC Patrol Diagnose products.*
- *Initiated IPRA (IP Reachability/Availability Analyzer): root cause analyzer, correlator, and impact predictor.*
- *Wrote complete business plans, roadmaps, requirements, designs, and white papers for new products for network, system, service, and security management, IT management, and analyzed potential acquisitions.*
- *Built consulting organization into an R&D "machine" to spin out new products while generating revenue.*

Principal Scientist, Principal Consultant, Managing Consultant (Houston, TX) **1992-1996**

• Initiated, managed consulting at Iridium (Motorola Satellite Communications), resulting in $7M revenue
• Initiated, managed consulting at AT&T (EasyLink, WorldNet Internet service), resulting in $2M revenue
• Initiated, managed consulting/products group specializing in Network & Systems Management
• Consulted for BMC, Intelsat, Motorola GSM, CEMEX (Mexico), Harvey House & Associates/USPCI
• Obtained NIST SBIR (Small Business Innovative Research) grant for HVAC diagnostics – principal investigator

Director of Applications Development (Cambridge, MA) **1989-1992**

Managed and developed expert system products. Managed consulting project teams. Directly consulted, developed prototypes, taught courses, wrote technical papers, set applications guidelines, assisted Marketing and Sales.

• Initiated and managed development of GDA (Gensym Diagnostic Assistant) -- a graphical expert system product for diagnostic applications. GDA was Gensym's first applications-level product, and first graphical programming language, responsible for 15% of Gensym revenue, 1500 licenses
• Developed proposals, managed 8-person team, consulted on emergency response expert system for nuclear plants for NUPEC Japanese government/industry consortium. Reference site led to Japanese business: 12-20% of Gensym sales
• Developed proposal, provided consulting & training for Biosphere II monitoring/control systems ($500K revenue)
• Initiated and developed automated "stress tests" for G2 quality assurance, resulting in performance fixes
• Stimulated sales worldwide through technical presentations, customer visits, and rapid prototyping sessions
• Consulted for various clients, including DEC Italy for bank monitoring, leading to ORSI SecurExp product
• Taught in AI short courses at MIT, Canadian Pulp & Paper Association, Gensym, U. of Maryland, Ohio State U.

G2 Product Manager (Cambridge, MA) **1988-1989**
Senior Scientist (Cambridge, MA) **1987-1988**

• Guided the development of G2, the leading real-time expert system, with doubling of sales each year
• Organized highly successful Gensym User Society meetings
• Developed most of the sample knowledge bases, which demonstrated G2, provided starting points for customer applications, and led to Gensym success – recognized as the leader in applying G2
• Provided first technical training and sales support for Gensym in Japan and France, generating new business
• Gave technical presentations, provided sales support, rapid prototyping – resulting in product sales

Exxon Chemical Company (Linden, NJ; Florham Park, NJ) **1976-1987**

Group Leader/Staff Engineer, Advanced Computing Technology (Florham Park, NJ) **1985-1987**

Established, led group for advanced applications in Process Control, Artificial Intelligence, and Dynamic Simulation

• Developed DYAN interactive equation-oriented dynamic simulator/expert system PC software product
• Led and participated in dynamic simulation projects for plant redesign of steam systems, polypropylene, others

Supervisor, Information Systems Section (IT), Bayway Chemical Plant (Linden, NJ) **1983-1985**

Managed IT operations and process control: 15 analysts, engineers and technicians responsible for all plant business and technical computing, including: process control, PC, mini and mainframe hardware & software, telecommunications, MRP II, accounting systems, and engineering computing

• Installed major new systems: data historians, financial analysis, maintenance management, planning
• Successfully introduced first plant PC application, guided widespread introduction of PC and LAN technology
• Combined process control and IT groups – an Exxon "first"

Supervisor, Process Control/Engineering groups, Bayway Chemical Plant (Linden, NJ) **1981-1983**

Supervised several groups of up to 15 Engineers for Process Control Applications, Process Control Systems, Process Engineering, and Economic Analysis.

• Saved millions of dollars/year energy costs despite continual shrinkage of workforce and re-organizations

Process Control Engineer, Bayway Refinery/Chemical Plant (Linden, NJ) **1976-1981**

• Major contributor to one of the first installations of TDC-2000 digital control system and associated Honeywell supervisory control system; design & implementation of basic and advanced control applications, operator training
• Built new advanced control and optimization applications saving $2M/year in operating cost

EDUCATION

Strong computer science & mathematics emphasis, including graph theory/network problems, estimation theory, statistics, process control, simulation, fault diagnosis, data reconciliation, Kalman filtering, optimization, and numerical methods.

Ph.D. Chemical Engineering, Northwestern University, 1976/7 • *Thesis: Estimation and Observability in Process Networks*
MS Chemical Engineering, Northwestern University, 1973/4 • *Thesis: Hybrid Computer Simulation of Adaptive Control*
BS Chemical Engineering, Purdue University, 1971

PUBLICATIONS AND CONFERENCE PRESENTATIONS

Author of over 25 technical publications (most peer-reviewed, many presented at technical conferences). Subjects include fault diagnosis, data reconciliation, process control, flow networks, network/systems/applications management, visual languages for real-time fault diagnosis and control using causal models or dataflow/workflow diagrams, object-oriented modeling, simulation and rapid prototyping, expert systems and artificial intelligence, CIM (Computer Integrated Manufacturing), neural networks, satellite fault monitoring, Kalman filtering, and estimation theory. Many of the papers are available online, accessible from the detailed list included in the online resume.

A guide to fault detection and diagnosis is available online as an overview of Abnormal Condition Management.

References available upon request

PUBLICATIONS AND CONFERENCE PRESENTATIONS – GREGORY M. STANLEY

"Real World Model-based Fault Management", R. Kapadia, G. Stanley, and M. Walker, Proceedings of the 18th International Workshop on the Principles of Diagnosis (DX-07), Nashville, TN, USA, June, 2007.

"A Generic Fault Propagation Modeling Approach to On-Line Diagnosis and Event Correlation", G.M. Stanley and R. Vaidhyanathan, Proceedings of the 3rd IFAC Workshop on On-Line Fault Detection and Supervision in the Chemical Process Industries, Solaize, France, June 4-5, 1998

"Integrated Fault Management in a Satellite-Based Global Telecommunications Network", R. Stewart, G.M. Stanley, V. Vasudevan, Software Engineering Symposium 1995 (Motorola internal conference), Ft. Lauderdale, Florida, USA, June 27-29, 1995.

"Using Expert Systems to Manage Diverse Networks and Systems", G.M. Stanley, (Keynote Session) Summit Enterprise Management Conference, Santa Clara, CA, USA, Nov., 1994.

"Architectures for CIM Systems for Process Industries", G.M. Stanley, AIChE Annual meeting, San Francisco, USA, Nov., 1994.

"The Emerging Trend Towards Knowledge-Based Frameworks for Computer-Integrated Manufacturing", G.M. Stanley, ISA 94 (Instrument Society of America), Philadelphia, PA, USA, May 2-5, 1994; also reprinted with drawings in ISA (fall) 94, Anaheim, CA.

"Neural Networks for Fault Diagnosis Based on Model Errors or Data Reconciliation", G.M. Stanley, ISA 93 (Instrument Society of America), Chicago, IL, USA, Sept. 19-24, 1993.

"Integrating Simulations With Real-Time Expert Systems", R.L. Moore & G.M. Stanley, in On-Line Real-Time Simulation in Advanced Control Systems, Proceedings of 19th Purdue Advanced Control Conference, August 30-Sept. 1, 1993, Lafayette, Indiana, USA, pp. 75-85.

"Integration of Process Monitoring, Diagnosis and Control: Issues and Emerging Trends", V. Venkatasubramanian & G.M. Stanley, FOCAPO-2 (Foundations of Computer-Aided Process Operations II), Crested Butte, Colorado, USA, July 18-23, 1993.

"Expert Systems Diagnose Processes On-line", G.M. Stanley & David A. Toy, PI Quality, Third Quarter, 1992.

"Experiences Using Knowledge-Based Reasoning in On-line Control Systems", G.M. Stanley, plenary paper presented at International Federation of Automatic Control (IFAC) Symposium on Computer-Aided Design in Control Systems, Swansea, UK, July, 1991.

"An Object-Oriented Graphical Language and Environment for Real-Time Fault Diagnosis", G.M. Stanley, F.E. Finch, and S.P. Fraleigh, European Symposium on Computer Applications in Chemical Engineering (COPE-91), Barcelona, Spain, Oct., 1991.

"Using the G2 Diagnostic Assistant for Real-Time Fault Diagnosis", F.E. Finch, G.M. Stanley, and S.P. Fraleigh, European Conference on Industrial Applications of Knowledge-Based Diagnosis, Segrate (Milan), Italy, Oct. 1991.

"Integrating Dataflow and Sequential Control in a Graphical Diagnostic Language", S.P. Fraleigh, F.E. Finch, and G.M. Stanley, Proc. International Federation of Automatic Control (IFAC) Symposium on On-line Fault Detection and Supervision in the Chemical Process Industries, Newark, Delaware, April, 1992.

"Process Control Using a Real Time Expert System", R. Moore, H. Rosenof, and G. Stanley, Proceedings of the International Federation of Automatic Control (IFAC), Estonia, USSR, 1990.

"Industrial Applications of Real-Time Expert Systems", G.M. Stanley, Informatica Sucesu '90 (III Congresso Internacional de Informatica), Rio De Janeiro, Brazil, Aug., 1990.

"The G2 Real-Time Expert System", Robert Moore, Gregory Stanley, and Rick Smith, AIAA (American Institute of Aeronautics & Astronautics) Computers in Aerospace VII Conference, Monterey, California, Oct., 1989.

"A Real-Time Expert System", R.L. Moore, B. Matthews, P. Lindenfelzer, G. Stanley, Fourth IEEE International Symposium on Intelligent Control, Sept, 1989, Albany, NY.

"Object Oriented Rapid Prototyping with G2", R.L. Moore, G.M. Stanley, H. Rosenof, Second International Conference on Industrial & Engineering Applications of Artificial Intelligence & Expert Systems, U. of Tennessee Space Institute, Tullahoma, Tenn., June, 1989.

"Process Control Using the G2 Real-Time Expert System", R.L. Moore, H. Rosenof, G.M. Stanley, Third International Conference on Expert Systems and the Leading Edge in Production and Operations Management, Hilton Head, South Carolina, May, 1989.

"Object-Oriented Models and their Application in Real-Time Expert Systems", A.G. Hofmann, G.M. Stanley, and L. B. Hawkinson, Simulation and AI 1989, Simulation Series, Volume 20 Number 3, Proc. Society for Computer Simulation International Conference, San Diego, Jan., 1989.

"On-line Data Reconciliation for Process Control", G.M. Stanley, AIChE Annual Meeting, Nov., 1982.

"Observability and Redundancy Classification in Process Networks", G.M. Stanley & R.S.H. Mah, Chemical Engineering Science, Vol. 36, No. 12, pp. 1941-1954, 1981.

"Observability and Redundancy in Process Data Estimation", G.M. Stanley & R.S.H. Mah, Chemical Engineering Science, Vol. 36, pp. 259-272, 1981.

"Estimation of Flows and Temperatures in Process Networks", G.M. Stanley & R.S.H. Mah, AIChE Journal, Vol. 23, No. 5, pp. 642-650, Sept., 1977.

"Reconciliation and Rectification of Process Flow and Inventory Data", R.S. Mah, G.M. Stanley, and D.M. Downing, Ind. & Eng. Chem. Process Design & Development, Vol. 15, No. 1, pp. 175-183, Jan., 1976.

Also, have participated as a panelist in working sessions on Real-Time Expert Systems at international conferences of the ISA (Instrument Society of America) and the AAAI (American Association for Artificial Intelligence).

Also, have presented portions of numerous courses for Gensym, as well as portions of short courses by :
Ohio State University (Strategic Implementation of On-Line Expert Systems in Process Operations, 1990, 1993)
Canadian Pulp & Paper Association (1990) - Topic: Expert Systems in the Pulp & Paper Industry
MIT (1988, 1989) - summer short courses in Expert Systems