

Robert V. Binder

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EXECUTIVE POSITION ~ INFORMATION TECHNOLOGY

Serial Entrepreneur, High Assurance Thought-leader, System and Process Architect

Rare combination of business and technical skills—promoter, dealmaker, closer, manager, financial analyst, and master system architect. Widely published, a sought-after speaker, and globally recognized as a software engineering thought leader. Intuitively recognizes disruptive opportunities and big solutions. Broad and deep grasp of value, architecture, and implementation of large, complex systems. Engaging and flexible communicator who sells business plans to investors, shares technical nuances with academics, delivers practical techniques to programmers, and develops strategy and tactics with senior management. Proven effectiveness in many verticals (financial, healthcare, IT, defense, energy, others) and all major IT stacks (mobile, cloud, open, proprietary).

CORE SKILLS

- Business planning, modeling, forecasting
- High Impact technology marketing
- Service project proposals, sales, and delivery
- Budget management, cost controls
- \$MM contract negotiations, sales
- Operations studies, gap analysis/correction
- Information technology product R & D
- Cloud/mobile systems architecture
- Advanced automated testing solutions
- Performance and quality management

EDUCATION

MS, Electrical Engineering and Computer Science — *University of Illinois at Chicago*
MBA, Management Science and Finance — *University of Chicago, Booth School of Business*
BA, Political Science — *University of Chicago, The College*

PORTFOLIO

Internet Assurance Lab, University of Illinois at Chicago

2012 to Present

CO-DIRECTOR

Applying protocol verification expertise and coordinating with industrial partners on research and development to improve robustness and usability of network technologies.

X9 D14 Working Group, Quality Management System for Automated Trading

2012 to Present

WORKING GROUP CHAIR

Leader of ASC/X9 process to develop a management system standard for the automated trading industry; liaison to ISO (International Organization for Standardization.) Based on ISO 9000, this standard will define best practices for developers and operators of automated and high frequency trading systems.

Olenick & Associates, Chicago

2012 to 2013

DIRECTOR OF INNOVATION

Ideated and launched a total marketing program for an IT testing service firm. Created twenty entirely new service offerings. Established alliances with startup and market-leading ISVs.

- Established a complete marketing program for a fragmented service/market mix with no existing marketing strategy, staff, or resources. Ideated “Deployment Assured” re-branding campaign. Working with a total budget under \$10,000, designed and lead development of integrated marketing platform, including webinar support. Launched social media campaign and process. Developed marketing and campaign process. Wrote three white papers and many data sheets. Personally designed and implemented an entirely new web site using WordPress Multi-Site and facilitated internal team of content contributors.
- Developed business plans, processes, and technology for twenty innovative service offerings, including “Assured Windows Migration” and advanced assurance solutions for cloud, mobile, and DevOps.

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System Verification Associates LLC, Chicago

2009 to 2012

PRESIDENT

Deliver best-of-breed consultation services for mission-critical system assurance. Quickly established wins for marquee clients facing high-stakes regulatory challenges. Multi-national client base spans leading independent software vendors, manufacturers, and government agencies.

- At the request of Microsoft's Principal SDET for its Open Protocols Initiative (OPI), recruited and led a team to assure acceptance of deliverables required by US Dept. of Justice. Reviewed hundreds of OPI specifications and model-based test artifacts, pinpointing many improvements. Served as process architect for a global contractor team located in China, India, and the Americas. Performed gap analysis using ISO 17025 (Test Lab quality standard).
- At the request of a leading provider of US FDA-regulated software responding to an FDA warning, led the verification and validation transformation project. Surveyed competitors to establish best practice benchmarks. Assessed development and assurance of six business units with offshore development. Identified FDA class II compliance issues and process improvement opportunities. Delivered detailed recommendations and an action plan to improve processes and prevent future warnings. Facilitated senior management buy-in and supported plan implementation.

mVerify Corporation, Chicago

2001 to 2009

CEO

Took a unique solution for end-to-end mobile testing to market. Recruited corporate board, chaired meetings, and prepared quarterly reports. Raised over \$3 million in grants and angel investor participation; pitched over 100 venture capital firms. Identified and nurtured relations with key channel partners and suppliers. Negotiated shrewdly for all sales, development, and investment contracts. Sourced, established compensation models, and managed all technical, marketing, and operational staff. Managed counsel for all IP and employment matters. Defined and evolved product architecture and then followed through leading all design, programming and testing.

- After a prototype was selected to [premiere at DEMO, proving](#) innovation leadership, proposed the [Advanced Mobile Application Testing Environment](#) to the US National Institute of Standards and Technology's Advanced Technology Program. Was one of 40 selected from 472 submissions to receive a \$1.9M award for R&D. Led development to successful completion in June 2005. Raised \$1.5M in subsequent funding from non-institutional investors. Guided agile development, marketing, and sales of five releases of MTS, *mVerify's* commercial testing product for the Windows Mobile platform.
- Headed the full scope of business development functions. Prospected and pitched leading Sand Hill Road VCs, preparing all supporting business plans and decks. Developed bottom-up business forecast generating multi-year financial statements. Personally conducted hundreds of sales presentations and demos. Continuously monitored competitive status of all players/products in the test automation space. Defined "mobile testing nightmare" and "A million users in a box" branding strategy using several agencies to develop multi-media/viral campaigns.
- Built and sustained relations in vertical markets including the DoD, wireless infrastructure, network equipment, handheld devices, large and small independent software vendors, and global IT service providers.
- Prevailed in a 6-year application process with the US Patent Office.

RBSC Corporation, Chicago

1985 to 2001

PRESIDENT

Sold, planned, and headed hundreds of international software engineering service engagements focused on the synergy of tools, methodologies, and process. Developed 65 days of instructor-led seminars; managed globally dispersed instructors to deliver training to thousands of developers in North America, Europe, and Asia. Established an automated testing practice delivering 10-year run of assurance solutions for "failure is not an option" clients in aerospace, financial markets, and regulated medical devices.

- Approached by the Chicago Board Options Exchange (CBOE) to conduct all integration and system testing of CBOE Direct—a screen-based trading system for the world's leading options exchange. Pioneered a unique model-based testing system that ran daily in a multi-platform real-time test environment. This four-year engagement resulted in zero-failure production releases and facilitated integration of new derivative products with other exchanges.
- Lent critical insight to the management team at Pansophic Systems (now Computer Associates) as they redeveloped and repositioned their enterprise manufacturing system product. Created a software process and integrated tool suite product to slash time to market and trounce the competition with agile feature development.

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- Selected by Exxon Production Research to design, test, and rollout an integrated tool suite to support a complete re-write of its supercomputer geological simulation and visualization system.

Earlier assignments include Application Programmer, Account Manager and Project Manager. Honed ability to develop systems for a wide range of applications, using cost effective software engineering techniques for high quality. Perfect record for on time, in-budget completion of complex multi-year software projects with fixed-price contracts.

INDUSTRY LEADERSHIP

Conference Keynoter and Presenter: WOPR-20, MBTUC, Juniper Ignite!, ISSRE, AMOST, ETAPS, Google TAC, Chicago SPIN, TestComm, Software-QS-Tag, QuoMBaT, STAR, Quality Week, Pacific Northwest Quality Conf., ROOTS, TOOLS, CQA

Signatory: Software Engineering and Method and Theory group (SEMAT)

Senior Member: Institute of Electrical and Electronic Engineers (IEEE)

Certified Software Development Professional: IEEE CSDP

Lead Judge: IEEEExtreme Programming Competition

Editorial Board: Journal of Software Testing, Verification, and Review

Technical Advisory Board: Agitar Software

Conference Co-Chair: 2016 IEEE International Conference on Software Testing (ICST)

Conference Co-Chair: 2004 IEEE International Symposium on Software Reliability Engineering (ISSRE)

Program Committee Member: 2011 MBT User Conference, ICST '08, AMOST '06 to '11, and OOPSLA '01

Industry Track Co-Chair: ICST '09

Founder and 5-term President: Structured Techniques Association

PATENTS

[US Patent 7,339,891: Method and System for Evaluating Wireless Applications](#)

US Patent Pending: System and Method For Distributed Certification Testing

PUBLICATIONS

- [Testing Object-Oriented Systems: Models, Patterns, and Tools](#). Addison-Wesley, 1999. Recognized as a definitive reference, this 1,024 page book has sold over 11,000 copies, been translated to Polish and Chinese, and was recently re-released in paperback. It is the first and only book about test design patterns and patterns for test oracles. It provides a practical yet complete explanation of state-based testing. Examples in Java, C++, Ada 95, Objective-C, Eiffel, and Smalltalk. Recommended study reference for the IEEE CSDP (Certified Software Development Professional) exam. Textbook for dozens of university courses.
- [Application Debugging](#). Prentice-Hall, 1985. Recognized as a definitive reference for IBM mainframe programmers. Shows how to analyze runtime errors for programs written in Cobol, Assembly, PL/I, and Fortran. Featured selection of the Library of Computer and Information Sciences Book Club.

Courseware

- Designed and developed online course [How to Test Mobile Apps, hosted at Udemy.com](#).
- Developed 3-day instructor-led course, "Testing object-oriented software" offered to 40,000 Lucent software developers through its Software Engineering Center of Excellence.
- Designed and developed over sixty days of instructor-lead training in software engineering and management.

Fifty-eight articles in leading professional and refereed journals, cited over 2,100 times. Selected titles:

- [Microsoft's Protocol Documentation Program: Interoperability Testing at Scale](#). *ACM Queue*.
- [Model-based Testing Update](#). *IEEE Reliability Society 2010 Annual Technical Report*.
- [The Percolation Pattern](#), *C++ Report*.
- Monthly column 1995 to 1998, *Object Magazine*.
- [Can a Manufacturing Quality Model Work for Software?](#) *IEEE Software*.
- Testing Object-Oriented Programs: a Survey. *Journal of Software Testing, Verification and Reviews*. This comprehensive survey of the state of the art was serialized using all pages of two issues of an archival journal.
- [Design for Testability with Object-Oriented Systems](#). *Communications of the ACM*.
- [KB/RMS: An Intelligent Assistant for Requirement Definition](#), *International Journal of Artificial Intelligence Tools*.

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Developed and released two open source projects

- [Test Automation ROI Calculator](#). Define and analyze cost/benefit of test automation, with tutorial white paper (GPL).
- [Reliability Demo Chart](#). Tool to make release decisions using reliability analysis (GPL).

TECHNOLOGY OVERVIEW

Mastered and applied a wide range of technology stacks to design, develop, test, and deliver scores of production systems.

Methodologies: Model-driven development, UML 2.0, Hatley-Pirbhai, Structured Analysis/Design, Data Modeling, N-squared charts, others.

Languages: C#, Java, C++, Tcl, Prolog, Objective-C, Cobol, TAL, Fortran, PL/I, various assembly; HTML, CSS, JavaScript, XML. CORBA IDL, Microsoft IDL.

Databases: SQL Server, MySQL, Postgres, IMS.

Tools: Jira, Basecamp, Visual Studio, Bugzilla, Trac, Source Depot, Subversion, GSOAP, RoboDoc, CPP Unit, Junit, ActiveState Tcl. Netmon, Wireshark. Ranorex, SilkTest, QTP, Quality Center, Expect, Spec Explorer, Visual Studio Team System/Test Edition; others.

Operating Systems: All Windows clients, Windows Server 2K, 2K8; Windows Mobile/CE, Linux (Red Hat, Debian, Cent OS), BSD, Solaris, NeXT, OS/400, IRIX, Guardian, RTOS, MVS.

Networks: Microsoft protocols: DCOM, Remote Desktop, Distributed Authorization, etc.; RFC protocols: HTTP, HTTPS, FTP, SMTP, DHCP, BEEP, SIP, TCP/IP, etc.; W3C protocols: SOAP, WSDL, XML, etc.; IEEE Protocols: WiFi, WiMax, Firewire, etc.