

John H. Fikus, PhD

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EMPLOYMENT GOAL:

Leadership position in leading-edge company offering technical innovation and forward-looking program responsibilities in advanced wired/wireless communications, digital network architectures, and proof-of-concept activities.

AREAS OF SPECIALIZATION:

- Government and Military Resilient Network Design and Analysis.
- Enterprise Communication Systems and End-use Services/Terminals.
- Broadband/Narrowband Communications Systems Integration.
- Network Optimization and Performance Simulation.
- Proposal Generation and Presentation, Program Execution and Tracking.
- Advanced Technical Team Management.
- Cross-Company/Agency Team/Program Facilitation.

EXPERIENCE:

Prediction Systems, Inc., (PSI), Oct 2001 to Mar 2006, Spring Lake, NJ Technical Director

- Excelled in several overlapping and divergent roles:
 - Technical marketing and business development.
 - Project management and leadership.
 - Proposal and white paper development, technical contracts management.
 - Discrete event modeling and simulation design and development.
- Developed expertise in military communications, particularly Tactical Data Links (TDLs).
- Built and managed several innovative distributed simulations.
- Spearheaded new PSI executive overview; numerous presentations.
- Proactive lead on FY07 Congressional Plus-up; Achieved support.

Architectural Assessment Tool (AAT) (Apr 05 – Dec 05)

Air Force Research Laboratory – Information Directorate (AFRL/IF), Rome NY

- Assumed contracts management, technical leadership and engineering management.
- AAT assessed impacts of design choices in passing IP communications over TDL.
- Built operational force deployment scenarios and network variations for simulation analysis.
 - Force deployment of SINCGARS and Link-16 platforms over Korean terrain.
 - RF propagation and connectivity visualization and analysis.
 - Placement of gateways, and interactive design of the Link-16 Networks.
- Final Analysis of Alternatives (AoA) of architectural designs.

JICO Support System (JSS) Phase 1 Contract – Team Lockheed (Sep 03 – Jun 05)

Lockheed Martin (LMCO) – Maritime Systems & Sensors (MS2), Moorestown, NJ

- PSI project lead for the Joint Information Control Officer (JICO) support system (JSS).
- Expertise helped win Phase 1 contract for Team Lockheed.
- Innovative monitor feedback interface and demonstration.
- Proactive project manager for three sub-contracts with LMCO (Phase 1, B&P and IRAD):
 - Statements of work; Technical contract development and closures.
 - Active participation in LMCO planning and customer meetings.
- Technical management of all phases of on-time project deliveries:
 - Link-16 Network Management System enhancements.

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- Link-11 HF radio propagation and terminal models and planning system (MIL-STD-6011C).
- Joint Range Extension Gateway (JREG) models and simulation (MIL-STD-3011).
- UHF Tactical, GEO Satellite models and simulation using 25 KHz DAMA-like protocol.
- Authored several reports and presentations:
 - Planning for the Future talk - Phase 1 JSS kickoff - excited the customer.
 - White paper on Future Multi-TDL Architecture (MTA) Planning (w/ Bill Cave).
 - MTA Integration Requirements, Architecture, Tool and Processor Analysis.

Link-16 Network Management System (NMS) (May 02 – Dec 05):

Air Force Research Laboratory – Information Directorate (AFRL/IF), Wright-Patterson AFB

- Engineering and business contributor to the Link-16 Network Management System (NMS).
- Built several dynamic, complex, operational scenarios for testing Link-16 networks.
- Supported analysis of Link-16 as a Weapons Data Link (WDL) for Small Bombs (SBs).
- Gave many executive level presentations and demonstrations on the Link-16 NMS.

Global Information Enterprise Simulation (GIESim) Laboratory (May 02 – Jun 05)

Air Force Research Laboratory – Information Directorate (AFRL/IF), Rome NY

- PSI technical and project lead on GIESim; original team member; lead four contract cycles.
- HLA connected “best of breed” models and simulations to form communications simulations.
- Co-designed an HLA interface (with SAIC) between the GIESim PSI Link-16 Simulation and JSAF:
 - Joint Semi-Automated Forces (JSAF) simulation; a large war gaming simulation without comms.
- Created Time Critical Target (TCT) scenario for interoperability testing and demonstration.
- Designed Link-16 networks to support common force deployment communications needs.
- Presented acclaimed talks and demonstrations to leadership at AFRL Rome and at JFCOM J9.
- Published technical paper and gave presentation and demo at 2005 SPIE conference.
- Built distributed simulation components for an AFRL Scientific Advisory Board (SAB) review.

Other PSI Work:

- Led several modeling and simulation workshops.
- Research on Information Operations (Information Assurance – IA, and Information Warfare – IW):
 - Intrusion Detection Systems (IDS), Attack trees, Intelligence Preparation of the Battlespace (IPB), Cyber Terrorism, and Zombie computers.
- Additional research on Joint Doctrine, Tactical Data Link (TDL) standards (maintain DISA), Common Data Links (CDLs), Airborne Networks, and Network Centric Operations (NCO) and Warfare (NCW).

Acoustic Technologies, Inc., Mesa, Arizona

Consultant, Aug-Sep 2001

- Consulting and research on Full Duplex (FDX) Speakerphone technologies. Competitive Analysis.

Lucent/AT&T Bell Labs, 1977 to 2002, Middletown and Holmdel, NJ

Senior Manager - Lucent Media Server System Test Team

Lucent Switching Solutions Group (2000 to Jul 2001)

- Assembled System Test team and labs for two generations of Voice over IP (VoIP) Media Servers.
 - Media Servers provided VoIP services for Lucent Softswitches © over IP networks.
- Championed automation of test execution and results collection.
- Managed creation of test cases and tools in Java, C++, and script language::
- Responsible for Customer Support and product delivery of first generation product.

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Technical Manager - Diverse Jobs in the Innovative Desktop Solutions Business Communications Systems (BCS) (1984-1999)

Audio Excellence Teams (1993-1999):

- Managed the Advanced Audio Technologies Group for high quality audio:
 - Assembled expert audio/DSP team; realized world-class, full-duplex, AEC video speakerphone.
- Directed enhancements to speakerphone algorithms and acoustic designs – beat competition.
- Enhanced overall state of audio performance.
- Fostered deeper appreciation of audio and audio challenges/solutions, particularly for VoIP.

Product Quality Improvement and Cost Avoidance Teams (1996-1998):

- Managed high performance team that handled trouble escalations from US and international customers.
- Proactively drove through process and system changes to improve business operations.
- Led cross-organizational, break-through teams that transcended traditional approaches.
- Avoided \$10M of full-stream business costs - reduced product trouble rate by over 35%.
- Handset Cord Tiger Team: \$750K cost reduction and 2X quality improvements.
 - Led break-through, 10-fold reliability initiative: 3:1 reduction in maintenance.
 - Created early warning processes - avoided millions of dollars of customer troubles.
 - Created automated Java-based data analysis and web page warning of troubles.
- Award for Customer Satisfaction.

System Test / Field Support Team (1987-1993):

- Responsible for System Test of dozens of Analog and Digital Voice-Data terminals.
- Created new sophisticated System Test lab and advanced tools to automate key parts of the test process.
- Successful introduction of dozens of analog and digital products.
- Effectively managed Customer Field Evaluations and a large number of customer trouble escalations.
- Project Management of product developments.

Systems Engineering Group (1984-1987):

- Defined next generation voice and data products and developed their requirements.
- Supervised Human Factors engineering, System Test, and Field Evaluation of Analog and Digital Voice and Data Terminals.
- Participated in Product Planning and led Customer Focus groups with Product Management.

Member of Technical Staff (MTS) Data Products Systems Engineer AT&T Data Products Division from 1981 to 1984

- Defined next generation and system architecture of new Data Phone products to meet customer needs.
- Lead Systems Engineer: High-speed, V.32 modem requirements, graphics conferencing system.

MTS Systems Engineer

AT&T Digital PBX development area from 1977 to 1981.

- Responsible for specifications and internal marketing for new communications processor.
- Developed specifications for new video display terminal for PBX and several office automation efforts.

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Additional Business Skills and Experience:

- Direct experience with all facets of product and solution realization from customer focus groups, requirements analysis, system engineering, design and development, factory interface, unit and system test, field trials, product introductions, field support, and repair.
- Success in building strong effective teams and growing individual and team performance.
- Excellent analytical skills. Knowledge of full-stream business cost components, quality processes, experienced with budget management and cost containment.
- Vertical and horizontal business communications, inter-organizational networking.
- Training and experience with Technical/Business Management, Quality and Process (ISO 9001, 14000).
- Advocate for customers and quality.

Technical Skills and Experience:

- Discrete event modeling and distributed simulations (M&S) of communications systems:
 - High Level Architecture (HLA), TCP/IP (client/server) and knowledge of DIS.
- Tactical Data Links (TDLs), particularly Link-16/JTIDS/MIDS, Link-11 and multi-TDL architectures.
 - Associated MIL-STDs - 6016C, 3011, 6011C.
- Design of dynamic, complex operational scenarios with Mission Threads.
- Familiarity with SINCGARS and EPLRS radio communications, SATCOM, Sensors, JTRS, Joint Range Extension (JRE) gateways and protocols, radio propagation, Link-16 network design, Network Centric Operations (NCO) and Warfare (NCW), C4ISR, and Information Operations (IA, IW).
- Computer modeling of physical systems (MS and PhD).
- Technologies:
 - Object Oriented Design (OOD) and Analysis (OOA), and Design Patterns.
 - Voice over IP (VoIP), H.323, TCP/IP, XML, ODBC, JDBC.
 - HTML and Web page design.
- Software: C, C++, General Simulation System (GSS), Java (J2SE 1.5), PERL, AWK, KSH.
- Hardware: Digital/Analog circuits, Z80, Intel 80x86/87, DSP32.
- Applications: MS Office, Access and Project, Designer, Visio.
- Systems: Windows, UNIX, DOS.

Education:

- Ph.D. Materials Science, University of Virginia, Charlottesville, VA 1977.
Computer Modeling: "Effects of Surface Energy Barriers on Void Growth in Irradiated Metals".
- MS Materials Science, University of Virginia, Charlottesville, VA 1973.
Computer Modeling: "Theoretical Conformations of Polypeptides".
- BS Physics, Fairleigh Dickinson University, Teaneck, NJ 1970.

Security Clearances: DoD Top Secret/SCI, Briefed NATO Secret.

Affiliations:

AFCEA, IEEE, IEEE Computer Society, Sun Java Developer Connection, IBM developer Works.

Personal:

Enjoy science and technology, computing, piano, Yoga, Qi Gung, bicycling, hiking, good food, and pets.

References Available on Request.