Stephen D. Williams

TS/SCI - CISSP - IT Architect / Dev / Admin / Mgmt. - AI / Perf. / Security / Usability

sdw@lig.net — 703-371-9362   http://sdw.st— AIM:sdw — Fax:703-995-0407 — PO Box 40, Mountain View, CA 94042

Mission: **Create important, elegant, and efficient solutions while improving technology when possible.**

Objective: Lead important development opportunities in the DC or N. California areas.

Professional Profile: Full Resume http://sdw.st : HTML PDF WORD— Minimal: HTML PDF WORD— Career Themes

Extensively developing and consulting, I have leveraged my ability to learn and adapt quickly, employ rich soft skills, and exercise deep technical and business capabilities. I have worked for 30+ clients, commercial and Federal, on 80+ projects over a span of 26 years. Most projects were development focused and all benefited from my broad skills. I have performed many roles, including, several times, founder and CTO.

Core Competencies include:
- **Development:** Java*, C#, C++*/Qt, Javascript/AS*, PHP, Matlab, Perl, Python, XML*, SV/CVS/Git, gperf*, kernel
- **Security:** Secure apps*, PKI, policy, accreditation, DoD / DCID / PDD / NIST regulations, XML digital signature, PKI notary
- **Advanced algorithms:** Data formats, Video & Image processing, temporal & graph analysis, protocols*, rule engines, AI
- **Systems:** Linux*/Unixen*, OS X, XP/Vista, Networking*, Cisco, Cray, Stratus, Virtualization*, embedded control, grids
- **Analysis:** DoD program assessment, patents, technology review, groupware, in-depth research* *(* = Many related)*
- **General:** Adaptability, Customer Focus, SW Architecture & Design, Dev Life Cycle, Wide Domain Knowledge.

Professional Background:

OptimaLogic, Inc. - President / CTO – 2009 to Present
OptimaLogic is a consulting and new products company, with offices in Mountain View, CA, Herndon, VA, and Honolulu, HI.

Sempra Energy - Senior Security Architecture Consultant
- Evaluated project components, configuration, policy, and performance for very large application renewal projects.
- Performed penetration testing, verification, and validation of fixes and remediations.

New Product Development
- Created new visualization and interaction paradigms for knowledge management.
- Developing clients in C++/Qt, Palm Pre, Android, and iPhone and server side with GWT/AppEngine/AWS.
- Contributed to startup product design, development, and evaluation: medical devices, social networking.

High Performance Technologies, Inc. - Senior Technical Director – 2001 to 2009 (Remain a consultant)
Active and successful in architecture, development, consulting, management, business development, proposal writing, market and technology research & evaluation, technical interviewing, and program assessment. Selected projects:

Army High Performance Computing Resource Center
- Security, network, & system lead for Cray XT3 & X1E and Liquid IQ supercomputers, Linux systems, Cisco, and VPN.
- Planned, installed, and managed Army DREN supercomputing center as lead security/network engineer, Unix admin.
- Prepared and documented DoD CSA and ATO certification of systems, security, and process.

Semantic Web, Temporal Analysis, SPARQL, Graph Analysis
- Developed semantic **RDF database visualization** components as an **I2 Analyst Desktop** plug-in tool.
- Researched **temporal analysis and graph query** to create correlation search plug-in tool.

W3C Efficient XML Interchange Working Group, Semantic Web
- Key participant in the **EXI** and **XBC** working groups, wrote and edited public documents.
- Participated in **W3C Semantic Web** interest groups with creators and implementers of semantic web and RDF.

DoD Acquisition, Technology, and Logistics
- Investigated, analyzed, reported, and briefed on several **large DoD program assessments** at the Pentagon.
- Included **deep interviewing of government and contractor teams** and generating program and technical assessments.

Scalable Awareness Framework (SAF) for intelligence
- Conceived and architected a processing and meta-data framework that manages large data flows, data sets, and synthesis goals over a large distributed processing system, dubbed **Knowledge Oriented Architecture** (KOA).

Department of Justice CIO PKI/Security Consulting
- Technical lead for the PKI Task and **expert for both PKI and security areas**, provided in-depth investigation, architecture, planning, and input to the creation of a **public key infrastructure and security architecture**.
- Wrote *PKI Enabling and Secure Application Development Handbook* upon request from FBI development teams. This document recently became the basis for the *PKI Developer Guide* at Treasury FMS, which I also helped edit.

Health and Human Services Office of Regulatory Affairs
- Performed final **IV&V for PKI Certification Authority** policies, architecture, and procedures.

Treasury FMS Secure Payment System, Senior Architect, PM, & Tech Lead
- **Architected very highly-secure Java applet and layered server Internet application**. Incorporated Java, HTTPS,

XML, Entrust / PKI / SmartCards, JMS/MQ, HP Virtual Vault, and DB2 SQL servers.
- Designed security architecture, secure database model, signed XML, secure object intermediary layer, validation engine, message orientation, GUI isolation layer, look and feel, 508 (accessibility), and audit. Innovations greatly enhance security & verifiability while reducing development & maintenance.

ObjectVideo, Consulting Developer – 2001
- Developed **MPEG4 File Format encoder** and RealPlayer plugin player with multi-threaded streams, real-time handling, object descriptor parser, and **BIFS scene graph** handling. Player handled multiple video and audio streams, with overlay.

Jabber.com, Chief Technical Officer – 2000
- Performed detailed technical training and assistance with scalability, enhanced features, interoperability, and a roadmap for extending Jabber's open IM/Presence system into an XML platform for general P2P and other transactional applications.

Insta.com, President and Chief Scientist – 1999
- **Founded startup** based on fusion of presence, instant messaging, dynamic web pages, and customer service.

ReverseAuction.com, Chief Technical Officer – 1999
- **Architected systems** for operations and auction web application, resulting in successful release and operation.

Geico, Consulting Chief Architect and Team Lead – 1998
- **Architected and won a large contract** to build a flexible, maintainable N-tier web interface to Geico's quoting system.
- Used Elements Advisor rule engine, Netscape Application Server, and Oracle RDBMS **to implement a new type of rule-based web application** that resulted in rapid rule implementation for the fluid auto insurance industry.

America Online, Inc., Senior Consultant – 1995 - 1998
- Designed and implemented **Buddy List** server and UI, starting the IM revolution.
- Conceived and developed an end-user **video IM system** (**Instant Images**), **first for large IM service**
- Developed digital notary and **a rate-based protocol**, allowing over 10 bidirectional video streams.
- Created object-relational C code generator in Perl with a high-performance database library.
- Implemented custom terminal emulator for Stratus development resulting in more efficient workflow.

Bank of America, Senior Consultant – 1994
- Installed and configured Dec SEAL firewall and internal and external web servers - **first public web server for any bank**.

Lexis-Nexis, Senior Consultant – 1992 - 1994
- Developed new document processing architecture for **online search engine** in C, C++, SunOS, Motif, Interviews, RDBMS.
- Rewrote X.25 external stock quote system in C++ for online service. Wrote satellite data reception system.

GE Aircraft Engines, Senior Consultant – 1989 - 1991
- Wrote an **expert system shell library in C++** for a distributed process diagnostic and auto-recovery tool.
- **Ported gcc, g++, Emacs, Kerberos**, and other tools to HP and Apollo platforms.

Computer Sciences Corp., Member Technical Staff – 1987
- **Created Postscript-like language and scrolling form capability in C++ that greatly anticipated today's Web forms, complete with inline scripting and HTML-like page definition.** Used in the following projects:
- Developed an **expert system-**based application for military logistics with PC to mainframe interchange, installed at Robins.

NCR Corp., Staff Consultant – 1986
- Developed NCR Flex benefits application as team lead under tight deadline, **distributed to all 33,000 NCR employees**.

GE Lighting Business Group, Programmer/Analyst – 1984 - 1985
- Developed embedded control system for rotary indexing bulb forming machine in Pascal MT+ and Z80 assembly. A new class of bulb, **output of this machine formed half of the re-lighting of the Statue of Liberty in 1985.**

Education:
- Stanford University Computer Science Artificial Intelligence Certificate Program (2008-2009)
- American University Masters Degree program - **4.0 GPA** - all but thesis - (2004-2007)
- Primarily and continuously self-taught. Frequently engaged in personal R&D.

Certifications:
CISSP in 2003, NSA INFOSEC Assessment in 2003, Brainbench Master Unix Admin in 2000

Membership:
ACM, IEEE, CISSP, Infragard, AOPA, lifetime AAAI, IETF, & W3C. **ISA/TS SCI security clearance.**

Personal Interests:
Writing, photography, private pilot, SCUBA, running, bicycling, kayaking, volunteering, and travel.

References:
Available upon request. Public recommendations available at: http://sdw.st/in