

May 2002 – present. JRL Associates. McLean, VA

Consulting services in the form of advice, guidance and recommendations on all procurement matters pertaining to the development of specifications, solicitation and award of a contract for acquisition of an automated bus fare collection system and of buses for the Metropolitan Bus Authority in San Juan, Puerto Rico. Prepared solicitation material, including procurement specification and technical specification, participated in pre-proposal conferences, developed evaluation procedures and factors, reviewed proposals performed financial analyses and made recommendations on negotiations.

August 2003 – present. Convergys Corporation. Reston, VA

Provided technical documentation associated with the Convergys Speech Network (CSN) Open Hosting Environment (OHE) project. Created Operations Manual, consisting of existing and newly developed processes and procedures for development, testing and production activities. Documented logical and physical network layout diagrams. Prepared Application Procedures Interface document for external users. Interviewed appropriate technical staff for knowledge transfer and documentation.

March 2003 - present. Lew Read, Inc. Annandale, VA

Intermittent Solaris support. Provided Solaris x86 5.7 System Administration support for the District of Columbia Superior Court. Updated DNS configuration, reconfigured additional Ethernet interfaces, installed Veritas backup agent software, and modified file system layout information. Provided disk drive recovery service for Solaris x86 5.8 disk drive file systems.

May – July 2002. IntelliData Technologies, Inc. Reston, VA

Documenting data flow for Electronic Bill Presentment and Payment (EBPP) system from front end XML-based protocol through Oracle database to back end Open Financial Exchange (OFX) and Master Card Remote Payment Processing System (RPPS) protocol-based payment systems. Utilized ER/Win data modeling system.

Prepared sample payment reports for EBPP system from Oracle database through Java Database Connection (JDBC) with JReport.

December 2001 – April 2002. Escom Corporation. Oakton, VA

Translated ASMTMP (Adaptive SMTP) spam filter quarantine client software from C into Java. Ported application to multiple platforms - Red Hat Linux, Microsoft Windows, Sun Solaris. Created Apache web server load module to enable quarantine server based functionality from web browsers. Performed technical pre-sales support.

September 2000 – November 2001. IntelliData Technologies, Inc. Reston, VA

Performed developmental Quality Assurance efforts on a web-based customer Electronic Bill Presentment and Payment (EBPP) system, primarily with Rational Enterprise Suite tools. Refined vision, defined functional requirements, wrote frontend customer interface and system use cases, created test plan and related integration interfaces documents. Created a message / protocol reference manual for an XML based protocol for frontend communications. Analyzed protocol certification suite components for Open Financial Exchange (OFX) and Interactive Financial Exchange (IFX) protocols. Performed technical coordination and supervision of six staff members, including employees and contractors. Solaris based system with WebLogic and Oracle was tested utilizing in-house web-based test tools. Created numerous support utilities for QA development in C, Ada, Java, UNIX shell. Utilized SQL interfaces from Solaris and Windows to access and manipulate data in the testing environment.

Development of message based test plan and scripts for electronic financial protocol switching system utilizing OFX and IFX protocols. Prepared test plan specifying over 1300 tests and automated bulk development of the majority of the IFX test cases. Trained additional development staff in financial protocols, test suite and assisted in test case development. Automation of test script generation (in C, Ada, and UNIX shell) and effort resulted in savings in excess

of \$200,000 against projected estimates over a four month period. Performed technical supervision of six staff members, including employees and contractors.

March 1999 - August 2000. IBM Corporation. Herndon, VA

Performed multiple electronic banking projects, including design, development and maintenance of the IBM IFS (Interactive Financial Services) platform and the VISA Interactive Electronic Banking System platform. Utilized Sun / Solaris and IBM RS6000 / AIX with C, Java, Javascript, REXX, MQ, IPlanet, MTI, SQL, DB2, Informix, Interbase, Netscape Enterprise Server and WebSphere. Developed new design specifications and implemented solutions and fixed outstanding defects. Served as technical interface to external (both non-development and customer) organizations. Performed defect triage, management, assignment and resolution.

(IBM was the technical outsourcing partner for Integrion, see below.)

February 1998 - February 1999. Integrion Financial Network. Herndon, VA

Performed multiple electronic banking projects. Architecture design and development for a protocol conversion between differing electronic bill payment and banking protocols - VISA Access Device Message Specification (ADMS) / Electronic Banking Messaging System (EBMS) and Integrion GOLD. Designed and implemented extensions to banking simulator system. Utilized Sun / Solaris and IBM RS6000 / AIX hardware with C, MQ series, MTI, SQL, DB2, Informix.

(Integrion acquired the North American assets and obligations of VISA Interactive under a divestiture of the subsidiary by VISA, see below.)

May 1995 - January 1998. VISA Interactive / International. Herndon, VA

Performed technology transfer and technical support of divestiture of the international operations of the Electronic Banking System of VISA Interactive to a third party in London, England. Performed development and coordination of technical training, procurement of production and developmental support hardware and software for the third party staff numbering fourteen.

Development, staffing and training of a third party application validation group, including software script and code development. Performed training and support of third party developers, including installation and modification of applications utilizing C, TCP/IP, X.25, Interbase, Informix on Sun / Solaris. Edited initial version of ADMS protocol reference manual.

November 1994 - March 1995. VAST Corporation. Vienna, VA

Part of a six person Boeing Reserve Component Automation System (RCAS) performance analysis team. Simplified architecture and reduced several hundred thousand lines of Ada code to achieve two orders of magnitude improvement in startup / execution time. Developed compilation order tool to permit recompilation of the entire system. Primary hardware was IBM PCs running a secure variant of SCO UNIX with Verdix Ada Development System (VADS).

September 1992 - September 1994. SAIC. Reston, VA

Multiple contracts for the productization of the OCR (Optical Character Recognition) Power Server (OPS). Developed process control and voting software that merged the output results of multiple OCR software engines resulting in significantly increased recognition accuracy. Primary environment was Sun / SunOS in C, with communications with additional IBM PC / DOS platforms via TCP/IP sockets. Integrated both machine print OCR and hand print Intelligent Character Recognition (ICR) engines for multiple commercial commodity products. Provided design documentation and status reports showing effectiveness of algorithms employed.

November 1992. Atlantic Research Corporation. Rosslyn, VA

Performed cost to complete analysis for the Iceland Air Defense System (IADS), a large radar collection system written in Ada operating under VAX / VMS.

June - August 1990. Escom Corporation. Oakton, VA

Developed test software in C for kernel portions of the Trusted Minix operating system on the IBM PC.

November 1990 - September 1991. E-Systems. Falls Church, VA

Supported development and debugging of large Ada / X Windows / database application. Utilized Sun / SunOS.

May 1988 - July 1992. Verdex Corporation. Chantilly / Herndon, VA

Performed multiple consulting efforts. Developed test software for Ada binding to X Windows product; computer systems security audit; general UNIX system administration support (emergency system reloads, system / mail / news configurations, physical relocation, etc.); and served as customer service support backup. Utilized VAX / UNIX, Sun / SunOS, Sequent Dynix.

October 1989 - April 1990. Institute for Defense Analyses. Alexandria, VA

Part of a four to six member team responsible for the analysis of the revision requests as part of the International Organization for Standards (ISO) Ada 9X revision process. Organized requests into appropriate requirements.

August - October 1989. Software Engineering Institute. Pittsburgh, PA

Investigated issues regarding input and output requirements for the Ada 9X revision process. Published report.

October 1988 - March 1990. Honeywell Federal Systems, Inc. Vienna, VA

Provided technical support for the successful Air Force WIS Workstation proposal effort. Recommended software products, performed benchmark evaluations, prepared white paper reports. Developed Ada binding to underlying operating system interfaces. Utilized Apple Macintosh / AUX with TeleSoft TeleGen Ada.

October 1987 - June 1988. ORI/Calculon. Rosslyn, VA

Supported the Marine Corps proposal technical evaluation of software development capabilities for contract awarding of the MCTSSA contract.

September 1987 - March 1988. Software Productivity Consortium. Reston, VA

Performed research into the utilization of formal methods in the Ada software development lifecycle. Published report.

October 1987. Computer Sciences Corporation. Fairfax, VA

Developed white papers and proposal for Ada Verification Environment.

August - September 1987. Software A & E. Rosslyn, VA

Investigation into denial of service attacks against SDI (Stragic Defense Initiative) software. Reviewed available design documents and performed interviews at the Naval Research Laboratory. Published report.

February - July 1987. Computer*Thought. Dallas, TX

Supported the development and translation of a LISP-based expert system into Ada on VAX / VMS and VAX / Ultrix.

November 1986 - July 1987. IIT Research Institute. Lanham, MD

Performed research into issues regarding the formal verification and theorem proving of Ada software. Published report.