



James M. Knock

Fairfax, Virginia

Web: <http://www.knock.com>, E-Mail: jim@knock.com
Phone 703-375-9971, Fax 703-880-4274

Computer communications consultant, specializing in creative leading edge software innovations. He has lead and directed project teams in the design, development, maintenance, and re-engineering of portals, middleware, high performance transaction and database systems. He has special expertise in the architecture of NonStop, High Availability and Security of applications, networks and databases.

Independent Consultant 1995 - Present

United States Postal Service Headquarters: Senior Network Systems Programmer, specializing in Data Communications, C Programming, SQL, EDI, Data Mining and Systems Architecture on HP NonStop Tandem and Microsoft Windows High Availability platforms.

- Lead technical resource transitioning a two billion dollar company from paper based international mail tracking to EDI based tracking and reporting.
- Architected, constructed, maintained and used EDI and SQL based systems to identify and eliminate losses of over thirty million dollars annually.
- Architected USPS's first NonStop, High Availability, Load Balanced three tiered system in a secure "lights out" enclave.
- Planned and guided the smooth transition of Windows front end servers, middle tier applications and back-end databases to the new system and into AD integrated security.
- Planned and guided a smooth transition of MessageWay EDI system from Tandem to Sun platform.
- Developed and managed EDI systems with over 130 international partners and about six million tracking events per day.
- Maintained cross platform SQL data replication services between NonStop SQL/MP and MSSQL systems.

Skilled in requirements analysis, proposals, specifications, data analysis and reporting. Fluent in C, Transact SQL, MSSQL DTS, VB, MessageWay (EDI), TAL, TMF, Cognos and other Analytic services and Pathway. Designed, developed and managed IIS and Apache web servers, SQL/MX and MSSQL servers.

Gemini Communications, Inc.: Vice President 1984-1995

Sales, strategic analysis of product opportunities, product pricing, proposals, contracts, contract negotiations, documentation, innovation, design, reverse engineering, programming, product support and customer support.

- Invented, designed, and implemented VT100, Tandem 6530, IBM 3270, Burroughs, and NCR terminal servers and emulators on 4 different platforms in 6 different languages. There were altogether 8 completely different program systems.
- Invented and implemented key features of a multi-threaded communications process kernel. It has become the basis for dozens of high performance telecommunications switching products produced in the US, Germany, and Japan. It was the first Tandem based non-privileged device access method. This later became known generically throughout the Tandem community as a "device type process".

Montgomery Ward: Proposed and closed the sale to on a system design. Lead the project team and personally designed and implemented its key element, Mercury, a very high speed 20,000 LU SNA transaction switch handling all Montgomery Ward data including credit cards, checks, item sales, pricing updates, and store information. Mercury handled all Ward's data communication with Nixdorf, NCR and IBM mainframe LU's. When completed this switch had twice the LU capacity of the largest known Tandem SNA switch. Peak credit card authorization transaction rates alone exceed 20 transactions per second with a latency of 200 milliseconds.

Rush Presbyterian St. Luke Medical Center: Rapidly implemented the patient information system, a data base server supporting various communication protocols to make stored patient information records available to a diverse community of machines. Created the Multi Function Terminal, a PC based, secure, multi-emulation terminal system deployed throughout the medical system. Developed a screen scraping scripted terminal emulator for extracting data base information from "untouchable" systems. These two mechanisms created interoperability among a number of competing autonomous hospital records systems on a variety of platforms.

Independent Consultant 1982-1984

United States Navy SPLICE project: Lead system design and development as the primary outside system consultant to Federal Data Corporation. Designed and constructed Tandem based terminal emulation software. Consulted on various communications issues in their network design. Created the first, and only, connectivity solution for attaching over 2000 legacy Burroughs terminals to Tandem computers. This program eventually became the Gemini product, FasTerm, that provided connectivity enhancements for approximately 200,000 terminals world-wide. SPLICE, a \$500 million, 72 node Tandem network was once the largest enterprise Tandem network in the world except for Tandem's own network. Invented the core concept of FasTerm, a differential virtual terminal technology that only updates the portion of a terminal screen that has changed.

Moore Business Forms: Sold the technical feasibility, then designed and managed the development team in the Tandem based Tropics replacement, an ultra reliable enterprise wide Tandem network for store and forward file and message processing of all corporate computer information.

PSR Systems, Consultant, 1979-1982

Lead the team and designed and implemented one of the first successful message switches based on a Tandem computer.

Designed and implemented Tandem terminal emulation and conversion software to convert data streams of TRW pin pads, NCR's, Burroughs, and others, to standard IBM 3600 bank teller terminal data streams.

Education and Certifications

University of Illinois at Chicago: BS, Mathematics

CompTIA Security+, 2008; USPS Proprietary Sensitive Clearance; I.C.C.P. *CDP*

Technical Background

Hardware Platforms and System

HP NonStop (Tandem), DEC Ultrix (Unix), Windows, Linux, MSSQL, NonStop SQL/MP, Tandem 6100 controller, Perkin Elmer, IBM OS/MVT

Computer Languages and Systems

Tandem TAL, C (POSIX), Visual C & C++, VB, VBScript, Tandem SQLCI, Transact SQL, MSSQL DTS, Borland C Builder, Borland Pascal, Java, JavaScript, NetBeans, MySql, Perl, Delphi, Intel Assembler, IBM 370 Assembler, FORTRAN, COBOL, Dreamweaver, PhotoShop, Corel Draw, HTML, MessageWay, SharePoint, Visio, Power Point, SPSS, and many others (over fifty languages).

Telecommunications

TCP/IP, Telnet, SNA, IBM 3270 Data Stream, Async, Bisync, Bit Sync, X.25, DEC Bisync, Burroughs MPSB, NCR, Ethernet, LAT, NetOne, LANtastic, Wireshark, various line monitors, NAT Firewall/Routers, IPV4, IPV6