



Stephen Thames

Summary

Since 1978, I have been providing software engineering solutions for the micro, mini, and mainframe computer industry. Having spent a large portion of my career as a software contractor, my experience and knowledge of the IT industry is quite diverse and extensive. I am an expert problem solver, a quick study, and a fast developer with excellent communication and documentation skills.

Skillbox

Hardware

CDC Cyber 176-835, HP-3000, HP-9000, IBM PC, 4341, 5100, 5110, 5120, System/23, System/34, System/36, System/360, System/370, NEC Astra, Unisys Megaframe

Operating Systems

CPM, CTOS, MPEiX, MPE V, MSDOS, MS Windows 3.11/95/98/ME/2000/NT, NOS/BE, Novell Netware, OS/VS, OS/2, Unix (HPUX, Solaris, Linux, FreeBSD)

Languages

ABAP/4 (SAP R/3), APL, Assembly Language (CDC, IBM, Intel, Z80), ASP, BASIC, C, C++, Clipper, Cobol, Dataflex, DBASE, DHTML, Fortran IV & V, HTML, Java, JavaScript, JScript, Mod Perl, Pascal, Perl, PowerHouse 4GL, RPG, SQL (Allbase, Informix, Microsoft, Oracle), Unix Shell Script, Visual Basic, VB .NET, VBScript, XML

Utilities

Amipro, Btrieve, Microsoft Access, Excel, FrontPage, PowerPoint, Word, Netscape, Mozilla, Jetform, Lotus 123, Topic Verity TDK, Wordperfect, Netware Client SDK

Server Systems

Allbase/SQL, Apache, BIND, DB2/2, CVS, DHCPD, Fultext, IPCHAINS, IPTABLES, Microsoft SQL Server, OpenSSL, Oracle, PVCS, RCS, TurboIMAGE/XL, View/Plus

Job/Contract History

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|----------------|--------------------------------|------------------------------|--------------------|
| 2/94 to 11/02 | Hewlett-Packard Company | Palo-Alto, California | Consultant |
| 11/95 to 12/01 | Agilent Technologies | Santa Clara, California | Consultant |
| 10/00 to 11/01 | Shaklee Corporation | Pleasanton, California | Consultant |
| 10/93 to 1/94 | IBM Corporation | Sacramento, California | Consultant |
| 1/92 to 9/93 | Bank of America | Concord, California | Consultant |
| 9/91 to 12/91 | Teekay Shipping (Canada), Ltd. | Vancouver, British Columbia | Consultant |
| 12/88 to 8/91 | Mini-Systems Associates | Marina Del Rey, California | MIS Director |
| 8/88 to 11/88 | JDS Microprocessing | Lake Forest, California | Consultant |
| 1987 to 1988 | SBCS, Inc. | Garden Grove, California | Support Manager |
| 1985 to 1986 | Mini-Systems Associates | Venice, California | Consultant |
| 1984 to 1985 | The Aerospace Corporation | El Segundo, California | Consultant |
| 1980 to 1984 | Alta Systems, Inc. | Huntington Beach, California | Technical Director |
| 1979 to 1980 | Meta Software Engineering | Torrance, California | Programmer |
| 1978 to 1979 | Prose, Inc. | Torrance, California | Computer Operator |

Work History

Here is a list of many of the development projects I have been involved in. The projects are listed in chronological order beginning with the most recent.

Base Two Solutions – Rancho Murieta, California

Visual Basic Applications

A postal mailing list processing software system needed to be refactored from **VB 3.0** to **VB .NET** in order to enable further modifications. This application uses an SQL Server database and several functions within the **MS/Windows API** including file selection and registry editing.

A web-based version of the mailing list utility required a complete overhaul in **ASP/VBScript**. In addition, an application server written in VB .NET was required to handle all the back-end processing of the website.

Metacyber.Net – San Jose, California

VPN Deployment

A small startup company required the ability to perform system development over a **VPN** connected to the homes of the principles of the company. I created **IPSEC** VPN Gateways under **RedHat Linux** that allowed for an internal network encrypted across the Internet.

Each node of the network is firewall protected using **IPCHAINS** or **IPTABLES** and provides IPSEC tunnels using **FreeSwan**. **DHCPD**, and **BIND** are used to provide **Dynamic DNS** capability available to the internal network only. **Samba** is used to provide **MS/Windows** networking across the VPN. All Windows and Linux workstations have the ability to share resources as if they were all in the same office.

Hewlett-Packard – Palo-Alto, California

Excel Spreadsheet Creation from ASP

Being a multi-national company, HP often sells equipment and services in one country that are provided by another country. The Multi-National Revenue Tracking system (MuNat), maintains records of the revenue generated by these transactions and reports on the transfers required between countries in order to balance the revenue accounts.

I was asked to enhance the performance of this system and generate **Microsoft Excel** spreadsheets directly from the **SQL Server** database into a web page. This was an **ASP** system written in **VBScript** and **JavaScript** and required a great deal of SQL customization.

Shaklee Corporation – Pleasanton, California

Website Performance Enhancement

The company's e-commerce website is responsible for a significant portion of sales revenue. This website was developed by a skilled but inexperienced programming team that did not understand hardware limitations.

I was called in to evaluate the website and recommend a solution for the dramatic loss of performance being suffered as the number of users increased. Another organization had previously performed this evaluation and recommended a complete redeployment at a cost of \$500,000.

My evaluation determined that the performance degradation arose from the lack of persistence in the **Perl** systems supporting the website. I recommended installation of **VelociGen**, an application server that would give the system persistence and require minimal system modification.

The e-commerce website was migrated from the **FreeBSD** operating system to **RedHat Linux** on new hardware and VelociGen was installed. The project took three months, cost \$80,000, and improved performance by 800%.

Agilent Technologies – Santa Clara, California

Technical Document Management

The TMO division had a need for a technical support document database, readily modified, easily maintained, and available worldwide. The Online Support Knowledge Resource (OSKR) was developed under **HPUX** on an **HP-9000** server system.

A web-based application, OSKR allows any user on the Agilent Intranet, anywhere in the world, to easily and quickly add a document to a workflow process in which the document is verified and approved before being submitted to the document database. Contextual searches of the database are available to any

Agilent user. Each document within the OSKR database has a prescribed review period, after which the document is automatically submitted to the document owner for currency review. Documents meeting certain criteria are automatically parsed and rebuilt by custom Perl applications and transferred to the Informix external website database.

The OSKR database, at the end of 1998, contained over 5000 documents and was being searched over 5000 times per month by Agilent service and support personnel all over the world. Many of these documents are automatically copied to the external Agilent website where they are available to the general public.

OSKR was developed using **C, Perl, HTML, Java, JavaScript, Topic by Verity,** and **Oracle 8** and includes over 500 pages of user, support, and development documentation.

Hewlett Packard – Palo Alto, California

JetForm Printing Interface

The corporate division of HP required the printing of hardware and software support contracts from their Installed Base System (IBS) database using **JetForm** form building utilities. **IBS** is a Cobol application running on the **HP-3000** under **MPE V**.

Customer Documentation (CustDoc) is an interface layer, written in **C**, between the **Cobol** application IBS and the **Jetform-Merge** utility. This interface builds the Jetform-Merge input file that is merged with the Macro Definition File (MDF) to produce the support contract on an HP LaserJet printer.

Interface layers were also created for the **TurboIMAGE/XL** database, **Allbase/SQL** database, **V/Plus** terminal formatting utilities, and the packed-decimal compiler library extensions. These interfaces were required by the application but not provided for in the operating system.

CustDoc was developed in 1994 and utilized in the US, South America, Singapore, Hong Kong, and Europe. It fully supported local language requirements.

Hewlett Packard – Palo Alto, California

JetForm Web Page Creation

The Support Connection Application (SCA) is a World-Wide Web based utility providing HP customers the ability to view their most current support contracts on-line in a **PDF** or **HTML** format. This project was started in 1999 and, at that time, there was no **multibyte** (Asian) character capability in PDF files, nor was there any ability to generate HTML using **JetForm**.

The CustDoc interface, created to generate support contracts from **IBS** using JetForm, was used to create the **Jetform-Merge** input file for a given contract web page. This file would be used to create a PDF file for non-Asian countries using the **PDFMERGE** utility from JetForm. This utility operated only under **Windows/NT** so it was necessary to create an automated transfer layer between the **HP-3000** and the Windows/NT server that performed the creation of the PDF file.

For Asian countries, a utility was created that would read the HTML page definition file, for a given Country and Contract Type, and merge this definition with the Jetform-Merge input file created by CustDoc. This would produce the support contract web page to be used on the SCA website.

In addition, Traditional Chinese characters, used by Taiwan, are represented using the **CCDC** character set on the HP-3000. A utility was written to convert these characters to the **BIG5** character set used on the Internet.

Finally, a **BTree** caching layer was created in **C** for use by the **Allbase/SQL** and **TurboIMAGE/XL** interface layers of CustDoc. This allowed the CustDoc process to be used efficiently in a batch-processing mode by SCA as well as in an interactive mode by IBS.

The first release of SCA was in April, 1999 after three months of design, development, and implementation.

Hewlett Packard – Palo Alto, California**Invoice Generation Refactoring**

The support contract invoice generation application, TBS, was 15000 lines of Cobol that had become completely unsupported by early 2000. There were no developers that adequately understood the process or could aid its required modification and support effort.

Softlife Consulting was asked to refactor this application in C++. The resulting program was approximately 1500 lines long and improved the efficiency of the invoicing process by 75 to 80 percent. The design and implementation of this new invoicing process took four months and was released in September, 2000.

Base Two Solutions – Rancho Murieta, California**PostScript Barcode Generation**

An application that created Postal Mailing Tray and Cage labels had to be modified to generate the Interleaved 2 of 5 barcode required by the US Post office. A utility was created to provide this capability in **GNC C** under **Linux**, **Windows/95**, and **Windows/3.11**.

Bank of America Systems Engineering- Concord, California**Protected Mode Networking**

In 1991, The Business Lending Division of Bank of America needed a workflow system specifically designed for loan origination processing. This was before the days of 32-bit memory addressing and the existing application (WIP) used and overlay configuration under **RT-Link PLUS** and was having tremendous problems with the 640K-memory limit imposed by DOS.

The Commercial Tracking System (CTS) was developed for the Bank of America Business Lending Centers in the western states. The typical site was a **200-node Novell Token-Ring LAN running Netware 3.11** with three 2.6 GB file servers. CTS was developed under **Microsoft C** and the **Phar-Lap 286|DOS-Extender** to solve the problem of memory limitation and prepare for possible later move to **OS/2**.

CTS used **Btrieve** as the database manager, **C/Scape** as the windowing manager, and the **Netware Client SDK** to integrate with the Netware operating system. All of these utilities were modified to work in **286 protected mode**.

Bank of America Systems Engineering- Concord, California**Automated Release Installation**

Bank of America had a requirement that no software support personnel be required for installation of new releases of the CTS loan origination system. Today, automated installation processes are commonplace, but, in 1992, no such process existed for small computer systems.

CTSCON was a configurable utility that would automatically backup the existing application, install new programs, make any required database modifications, apply any system configuration changes, and perform any necessary integration tests based on the configuration script provided by the development team. The installation package created by CTSCON required minimal operator intervention, provided a restore capability in case the installation had to be removed for any reason, and produced a report on all changes made to the target system.

CTSCON was developed using **Microsoft C**, **Intel Assembly Language**, and the **Netware Client SDK**.

Bank of America Systems Engineering- Concord, California**Version Control**

By 1992, two lines of CTS system development were constantly being maintained: Planned Installations (PIs), which included feature enhancements, and Unplanned Installations (UIs), primarily given to system corrections but capable of emergency feature implementations.

The growing number of CTS installations was creating increasing requests for feature enhancement. The development staff was expanded to 6 in late 1992 and multiple PI releases began to be planned. This caused a problem for the version control process. **PVCS** was used for version control and the process became unwieldy in light of multiple planned releases. It became too simple for the version control chains to become corrupted by developers that did not or could not adhere to the expanding command restrictions.

I created a menu driven system, based on PVCS, that would allow for the simple creation of a new

planned release. A developer would simply “login” to the release being worked on before checking out or checking in modified program code. The process was flawless and used the PVCS facility for merging changes from one release into another quite effectively.

Teekay Shipping (Canada), Ltd. – Vancouver, British Columbia Company Network Changeover

I was asked to organize and re-structure the installation of a **60-node Novell Token-Ring LAN** running **Netware 3.10** and **Netware 2.15** to replace the **Unisys/Convergent Technologies Megafame** network. I prepared both systems for the move from Long Beach, California to Vancouver, British Columbia and, once in Vancouver, supervised the system conversion.

In addition, I created a menu driven utility for creating, sending, and storing telexes sent between the corporate office and the oil tankers under contract. The process was developed using the **Wordperfect Macro Language**.

Mini-Systems Associates – Marina Del Rey, California Resume Retrieval System

Although network based, document indexing and retrieval systems are readily available today, in 1988 no such animal existed. I was asked to create an interactive, resume indexing and retrieval system for use by the technical candidate recruiting staff in the corporate office and the remote offices around the country.

Interactive Remote Office Search (IROS) was a multi-user, remote access, resume retrieval system utilizing **OCR** and **Full Document Indexing** technology to maintain and allow instantaneous access to a database of 50,000 original resumes with as many as 100 new resumes being scanned and added to the database, daily. The system was developed using **Borland Turbo C** with **Btrieve** as the database manager and **C/Scape** as the windowing manager.

IROS was installed on a **60-node Novell ARCNET LAN** running **Netware 3.11** with the database on mirrored 600 MB file servers. In addition, **PC/Anywhere** was used to provide for dialup access to the system so that searches could be performed from the remote sales offices around the country.

Mini-Systems Associates – Venice, California Database Search Refactoring

In 1986, the company was maintaining a database of technical information for candidates that was coded from information in candidate resumes. This database was maintained in an **IBM 5110** computer system and the search application was written in BASIC. I was asked to refactor this application into the machines **assembly language**. The design and implementation of the new search application took two months and reduced the time required to search the database from 35 minutes to 45 seconds.

The Aerospace Corporation – El Segundo, California Database Management

The ASAT development program, part of the Star Wars initiative, maintained the results of system tests in an APL database. I was asked to create a new database that had greater data storage and query capability.

Data Inquiry Processing System (DIPS) was created using **Fortran 77** and **COMPASS Assembly Language** on the **CDC Cyber 176** mainframe computer.