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Professional Preparation

Manager Tools Effective Manger Conference	August 2009
Manager Tools Effective Communications Conference	August 2009
Leading Bold Change Workshop (Dr. John P. Kotter)	June 2008
ITIL Foundation Certification	September 2006
Microsoft MCSE (Microsoft Certified Systems Engineer)	January 2002
American Research Group - Implementing T1 and T3 services	March 1998
Technical Certification, Sun Microsystems Ultra Enterprise 10000	November 1997
Technical Certification, Sun Microsystems Competency 2000	July 1997
Technical Certification, Sun Microsystems Certified Solaris Administrator	January 1997
Transarc - DCE 1.1 Secure Core System Administration	June 1996
Technical Certification, IBM CLSE (Certified LAN Server Engineer)	May 1996
Technical Certification, Novell CNE (Certified Novell Engineer)	February 1995

Professional Experience

Argonne National Laboratory, Lemont, IL: September 2002 – Present

Manager Application Platforms, December 2009 – Present: Responsible for providing a robust application platform and service infrastructure to the Laboratory's business application and computing environments supporting ~3000 employees plus collaborators. Supervise 6 direct reports and 13 indirects. Responsible for all business system application platforms, including application delivery controllers, Java application servers (GlassFish, JBoss, Tomcat, Sun Java System Application Server), web farms (Linux, Solaris, Windows), SharePoint, XenServer virtualization, F5 BigIPs, HA NAS, MySQL, SAN.

- Negotiated feature improvements with Zimbra Inc. allowing Argonne (and others) to share calendar free/busy information between our Zimbra and Exchange services, dramatically increasing lab-wide efficiency for scheduling meetings.
- Envisioned and pursued virtualization as a division wide service. This service progressed from VMWare Server, to Xen, to Argonne's current highly available XenServer service running numerous production and development services on ~200 VMs.
- At the request of NEXSAN tech support, asking "How did you get it working? We've tried to no avail.", I provided them with a copy of my documentation on Linux kernel multi-path configuration for NEXSAN storage with working path prioritization. Part of their response to my documentation was, "It was your working configuration that re-ignited our research and resulting in us getting ours working too."

Manager Open Source Technologies Group and Deputy Manager Unix Storage and Operations, March 2006 – December 2009: Manage team of 4 directs, and 8 indirects. Responsible for all CIS Linux system operations including Linux and parallel file-system consulting to scientific divisions. Established and maintained numerous lab-wide and public services including internal and external DNS, Zimbra enterprise email, LAMP farm, public software mirror, secure LDAP Address Book, Wiki, SVN, Trac, NDT, Cisco Wireless Services, CRYPTOCard, and others.

- Won the participation of three major divisions, with a fourth pending, in migration from self-supported email systems to a centrally managed enterprise email solution via Zimbra. This is a significant win for the lab, breaking through political barriers over technology support, and saving hundreds of thousands of dollars a year in equipment and reduction of duplication of effort.
- Established CentOS as a CIS approved and recommended alternative to Red Hat for lab-wide use, saving the lab 62% of the year one cost by year three of the program, while achieving a higher level of customer satisfaction with the service.
- Led my team in taking the Linux infrastructure from a handful of barely managed machines, into an enterprise class environment. Established configuration and administration standards, and

employed the use of state management software to enforce consistency across the environment, as well as to reduce administrative effort. These practices and standards are well understood, and are in use by all members of the Linux team. Linux is now the OS of choice for most new Unix applications and services.

- Led my team in the architecture and implementation of a highly available LAMP Farm that is a well structured platform for full application life-cycle including a dev, test, stage, and production environment for both sensitive and non-sensitive applications. This service currently supports over 65 business applications.
- Created an iptables “chunking” system, allowing for centralized changes to "chunks" of iptables firewall rules used by our Linux boxes allowing us to enforce standard configurations across many systems, while maintaining flexibility with individual systems.
- Led my team in deploying a high-performance, high-availability NAS service to act as the data store for our entire VM infrastructure.

Linux Strategist, March 2005 – March 2006: Open source representative to the lab. Set Linux and open source standards for the CIS (Computer and Information Services) division, and published them for use lab-wide. Coordinated Argonne's Red Hat subscription program. Founder and leader of Argonne's Linux Admins Group.

- Managed an international open source project with the goal of using BitTorrent as a transport for SystemImager. We achieved remarkable success and produced a solution that is more scalable and with a more deterministic deploy time than existing transports, including multi-cast.
- Created SSM (System State Manager) – an open source configuration management tool for applying and maintaining package and configuration state on Linux systems. This tool was created to meet the CIS division's need for flexible yet conservative management of Linux based business systems. It remains the tool of choice today.
- Maintained WiFi Radar open source project. WiFi Radar is a graphical tool, written in Python, for use on Linux, that automatically discovers and connects to wireless networks.

Senior HPC Systems Engineer, September 2002 – March 2005: Lead efforts to design, maintain, and operate high-performance computing systems. Investigate and evaluate emerging technologies in the areas of computing, storage, and networking, and contributed to the development of these technologies. Collaborates with colleagues within the division, across the Lab, and at other laboratories and universities, in support of research in advanced computing.

- IA64 and IA32 Kernel Maintainer for the TeraGrid, which currently includes 9 national laboratories, universities, and computing centers. This responsibility includes identifying and evaluating kernel related security, bug, and driver issues, modifying and patching SuSE provided kernel source code as necessary, building new kernels and associated separate driver packages, and packaging them up in an easy to distribute and install, RPM based format.
- Creator and lead administrator of the TeraGrid Construction Team's collaborative development resource, “repo.teragrid.org”. This resource provides a single point for software, policy, and documentation development, including secure web space, cvs, and bug tracking, for the initial and continuing development of the TeraGrid as a whole.
- Significant contributor to foundational design decisions, and the establishment of standards, which are now implemented as part of the TeraGrid infrastructure.
- Lead System Administrator, UC/ANL TeraGrid Cluster.
- SystemImager, an Open Source project I lead, chosen as a foundational component for deployment of Linux workstations and servers in the MCS division.
- Considered a “go-to” person for other High Performance Computing Systems Engineers across the TeraGrid.
- Joint appointment to the University of Chicago.
- Designed and developed much of the infrastructure code used every day to manage the UC/ANL TeraGrid compute and visualization cluster. Some of this code has also been implemented by staff at other TeraGrid sites.
- SystemImager support integrated into xCAT, IBM's cluster administration toolkit. Integration was partially implemented by myself, and was completed by Viet Hoang of IBM.
- Founded openXcat, an project to provide Open Source, drop-in replacements, for proprietary xCAT components, with the goal of also providing easily modifiable feature enhancements. The

- primary openXcat developer is Jason Brechin of NCSA. This project was founded with the blessing of and encouragement from the author of xCAT, Egan Ford, of IBM.
- Code contributions to WiFi Radar (Listed in the Authors file), a graphical Open Source tool, written in Python, for automatically discovering wireless networks and configuring a wireless adapter to connect to the desired network.
 - Founded and lead the Argonne Linux Admins group. The charter of this group is two-fold: 1) to bring the linux admins at the lab together in order to leverage each others experience and knowledge, 2) to provide a forum for discussing lab coordinated Linux related activities, such as the recent RedHat licence purchase.
 - Established a relationship with vendor Terra Soft Solutions, to have them port SystemImager to the Apple Macintosh and other PowerPC 64 platforms. This port was demonstrated at SuperComputing 2004 by Terra Soft Solutions in the Argonne booth. As part of the agreement with Terra Soft Solutions, they have purchased and provided a pair of Apple Xserve machines to be used for testing and experimentation by the MCS division.

Bald Guy Software, Dallas, TX, July 2001 – March 2003

Chief Technology Officer, July 2001 – March 2003: Primary engineer in the fulfillment of cluster-related software development contracts. Perform all aspects of operation including contract negotiation and maintaining relationships with customers such as Hewlett-Packard, Compaq and OSDN. Currently long term contracts include the following:

- OSDN – Foundry Guide on the SourceForge Clustering Foundry. Duties performed include developing and maintaining a relational database and web enabled application (The Clustering Taxonomy Database), editing and publishing guide, writing articles, and critical thinking with other OSDN staff to shape what a foundry is and how to make foundries useful to visitors and sponsors.
- Hewlett-Packard – Two project-based contracts to add specific functionality to SystemImager, including support for IA64 GUID Partition Tables (GPT), Dynamic Partitioning, and multicast for initial image deployment.

VA Linux Systems, Fremont, CA, May 1999 – July 2001

Sales Engineer Manager, June 2000 – July 2001: Promoted from within the organization to be the first Sales Engineer manager at VA Linux Systems. Supervised 6 directs spread across the Western United States and traveled weekly (~100k annual miles). Established policies and procedures for the Sales Engineer organization. Coordinated training and team building activities. Managed professional services operations performed by the team. Top-level technical resource for team members in the field. Continued to work as a technical closer on high level deals.

Sales Engineer, May 1999 – June 2000: Sales Engineer specializing in scientific and cluster computing. Territory included all of the United States. Assisted in the architecture and implementation of dozens of Linux clusters and Internet server infrastructures. Provided design support and guidance to the VA Linux Professional Services group during their first few contracts. Selected as the Sales Engineer to represent VA Linux Systems at the company's debut in Japan.

Independent Contractor, Dallas, TX, August 1998 – May 1999

Senior System Administrator at PrimeCo PCS, Westlake, TX, August 1998 – May 1999: One of two Senior System Administrators on a team of four. Administered 150+ Solaris, SunOS, and AIX systems across a nationwide network. This was a high-pressure telecommunications environment with about one-third of these systems running Oracle and other relational or object oriented databases. Established standards for system management across the enterprise. Supported experimental labs, radio frequency engineering teams on development systems, and the development, acceptance testing, and production environments for production applications. Coordinated with upper management on major architectural decisions. According to a commissioned study by the Gartner Group, they had “never seen an environment

with such a low ratio of administrators to systems” and were impressed that our team was able to successfully support the environment.

IT Consultant, Berger and Co. Consulting, August 1998 – May 1999 (concurrent with above):

Concurrently with my primary contract at PrimeCo (above), I engaged in a number of separate short-term assignments sourced by Berger and Co. Consulting.

Dataplex, Dallas, TX, February 1998 – August 1998

Senior System Administrator and Technical Manager, February 1998 – August 1998: System administrator of NetWare, Windows NT, Local Area Network (physical), and Wide Area Network. Primary architect for protocol migration, LAN backbone redesign, and multiple OS integration projects. Team lead for technical personnel in several departments. Coordinated installation and troubleshooting of T1 and frame relay connections to client sites. The Dataplex business focus was providing outsourced document imaging services. It was the largest FileNET shop in the world at the time.

Berger and Co. Consulting, Dallas, TX, May 1996 – February 1998

Consultant/Senior Systems Engineer, May 1996 – February 1998:

Primary clients were the Unix and Billing Transaction Monitor teams at PrimeCo, PCS. Often called in to assist other consultants with difficult technical situations at other client sites. Taught classes to customers and other consultants on a variety of topics including TCP/IP, disaster recovery, and Solaris. Chosen to represent Berger and Co. as the Systems Engineer for startup operation BTI (Berger Technologies Inc.), the Sun Microsystems and Compaq reseller side of Berger & Co.

UT Southwestern Medical Center, Dallas, TX, March 1992 – May 1996

Network Analyst, March 1992 - May 1996: Supported computer systems and associated scientific equipment for several laboratories performing genetic engineering research in a number of areas including transgenic mice, autoimmune diseases, and the human genome project. Provided all computer systems support for these labs including genetic database maintenance and the creation of an application for tracking diabetes mellitus patient information.

Recognition

“Argonne Lab Puts Zimbra to the Test ”, interviewed for this article in eWeek

Discusses the use of Zimbra at Argonne, as a sister service to Exchange, to encourage consolidation of more than a dozen disparately managed email systems onto Zimbra and Exchange as two centrally managed services.

Written by Michael Hickens (February 2, 2009)

“Clustering Is Not Rocket Science ”, article in LinuxJournal

Discusses use of SystemImager to build an HPC cluster: *“In this article, we try to serve two purposes: we describe our experiences as a research group operating a large-scale cluster, and we demonstrate how Linux and companion software has made that possible without requiring specialist HPC expertise. As HPC Linux clustering has matured, it has become an aid to rocket science, without needing to be rocket science itself.”*

Written by Rowan Gollan, Andrew Denman and Marlies Hankel (August 2006)

"The Linux Enterprise Cluster", a book on building reliable Linux clusters

Discusses the use of SystemImager, among other clustering technologies. The accompanying CD-ROM includes all of the software needed to build a Linux Enterprise Cluster, including the Linux kernel, the SystemImager package, the Linux Virtual Server package and others.

Written by Karl Kopper (April 2005)

Article on SystemImager

“Creating Images Of Your Linux System”

Written by Falko Timme of Germany (March 2005)

FalkoTimme.com

SystemImager Chosen as Foundation for Commercial Product

SystemImager was chosen by Terra Soft Solutions as the foundation for Y-Imager, their commercial solution for deploying their Y-HPC product on the PPC64 platform. (July 2004)

Article on SystemImager

“Recursive Use of SystemImager for Cloning Entire Clusters”

Written by Scott Delinger

SysAdmin Magazine, January 2003, Volume 12, Number 1

Interviewed by The Dallas Morning News

“Lagging job market affects Linux pros, too”

Written by Victor Godinez of The Dallas Morning News (July 2002)

Other interviewees include Dan Frye, Director of IBM’s Linux Technology Center.

Interviewed by Salon.com

“Same job. Different cubicle.”

Written by Sam Williams (July 2002)

Other interviewees include Jeremy Allison (Samba), Michael Jennings (Eterm), and Ted Arden (VA Linux Sales Engineer team).

Referenced in Linux Journal’s “The OSCAR Revolution” article

Written by Rich Ferri of IBM (June 2002)

Official “UberGeek”

VA Linux (May 1999 – July 2001)

Participant in the “by invitation only” Large Scale Cluster Computing Workshop

Fermi National Lab (May 2001)

Cluster Administration Has Been Solved, or Has It?

Panelist, Extreme Linux Track, Atlanta Linux Showcase (October 2000)

Group Leader – Outstanding Leadership Camp

Leader from the community (by invitation)

Each spring, 120 North Texas high school students are chosen by their guidance counselors and school administrators for a leadership camp. The emphasis of camp is to help the candidates learn what defines a leader and to recognize in themselves and in each other their potential. (1998, 1999)

Linux Today

Asked by Linux Today founder Dave Whiting to help represent Linux Today at their first tradeshow.

LinuxExpo, Raleigh, North Carolina (April 1999)

SWAT Team

Selected as a member of a SWAT team to resolve complex production issues with a mission-critical billing system involving multiple companies.

PrimeCo, PCS. (1997)

Committee Memberships

Steering Committee

The Open Cluster Group
Elected member (2005-2007)

Software Working Group

The NSF Funded TeraGrid Project
Member (2004 – 2005)

Account Management Working Group

The NSF Funded TeraGrid Project
Member, developer, and Argonne team lead (2003 – 2005)

OSCAR Working Group

The Open Cluster Group
Member and developer (2001 – 2007)

Interoperability Working Group

The NSF Funded TeraGrid Project
Member (2003 – 2004)

Data Working Group

The NSF Funded TeraGrid Project
Member (2002 – 2004)

Cluster Working Group

The NSF Funded TeraGrid Project
Member (2002 – 2004)

Computer Networking Program Advisory Committee

Dallas County Community College District
Member by Invitation (1995 – 1999)
The Advisory Committee assists with determining the program's goals and objectives, establishes the program's skills standards, assists with curriculum review modification, and assists with identifying resources within business and industry.

Professional Societies

DFW Unix Users Group

Board of Directors Advisor (2000 – 2001)
Member (1996 – 2003)

DFW Linux Users Group

President (1999 – 2000)
Member (1998 – 2003)

The Open Cluster Group

OSCAR Core Team Member (2001 – 2007)

The Open Cluster Framework Group

Member (2001 – 2003)
Supporting Organization (Bald Guy Software) (2001 – 2003)

DFW Perl Mongers (Perl Programming Language Users Group)

Member (2001 – 2004)

DEBUG (DFW NT Users Group)

Member (1998 – 2000)

DFW NPA (Network Professionals Association)

Webmaster (1994 – 1995)

Member (1994 – 1997)

Publications

Refereed Conference Papers

Craig Stacey, Max Trefonides, Tim Kendall, Brian Finley , “**The Water Fountain vs. the Fire Hose: An Examination and Comparison of Two Large Enterprise Mail Service Migrations** ”, presented by Craig Stacey at LISA Conference, Baltimore, US, 2009.

Brian Elliott Finley (Argonne National Laboratory), Erich Focht (NEC High Performance Computing Europe), Bernard Li (Canada’s Michael Smith Genome Sciences Centre), Andrea Righi (CINECA High Performance Computing Centre), “**SystemImager and BitTorrent: a peer-to-peer approach for Large-Scale OS Deployment** ”, presented at LinuxTag, Berlin, Germany, 2007.

Brian Elliott Finley, “**VA SystemImager**”, in the *Proceedings of the 4th Annual Linux Showcase & Conference*, Atlanta, Georgia, October 10-14, 2000.

Technical Publications

“The Production Cluster Construction Checklist”

Written by Rémy Evard, Peter Beckman, Sandra Bittner, Richard Bradshaw, Susan Coghlan, Narayan Desai, Brian Finley, Eugene Rackow, and John-Paul Navarro .
Argonne National Laboratory, Mathematics and Computer Science Division , Technical Memorandum No. 267

Magazine Articles

- Brian Elliott Finley, “Corporate Open Source Collaboration?” *SourceForge Clustering Foundry*, August 2002.
- Brian Elliott Finley, “Brian Writes about His BOEL, Part 2: Kernel and Booting”, *Embedded Linux Journal*, May 2002.
- Brian Elliott Finley, “Brian Writes about His BOEL”, *Embedded Linux Journal*, March 2002.

Software

- SystemImager – SystemImager is software that automates Linux installs, software distribution, and production deployment.
- BOEL (Brian’s Own Embedded Linux) – BOEL is an embedded Linux distribution that was developed specifically for use with SystemImager.
- System State Manager – an open source configuration management tool for applying and maintaining package and configuration state on Linux systems.
- Flamethrower – Flamethrower is intended to be an easy to use multi-cast file distribution system. It was created to add multi-cast install capabilities to SystemImager, but was designed to be fully functional as a stand-alone package.
- POPwatcher – POPwatcher is a daemon that maintains a list of hosts that are authorized to use one’s mail server as an SMTP relay based on those hosts successfully authenticating to one’s POP mail server.

Presentations

Installing and Using Debian Linux

DFW Unix Users Group (September 2002)

Development Issues in Embedded Linux Environments

Mathematics and Computer Science Department, Argonne National Lab (August 2002)

Hacking Embedded Linux

DFW Linux Users Group, Dallas, Texas (August 2002)

Monthly Presenter

Audience's Choice of Topic (Linux related)

DFW Linux Users Group (1999 – 2000)

Seminar on SystemImager

Hack Linux Track, Atlanta Linux Showcase (October 2000)

Sales Engineer Training on Physical Networking and SystemImager

VA Linux Systems, International SE Summit, Toronto, Canada (June 2000)

Building Linux Based Virtual Private Networks

Seminar, ISPCon (Spring 2000)

Compiling the Linux Kernel

DFW Linux Users Group (2000)

Software and Hardware RAID in Linux

DFW Linux Users Group (1999)

Creating a Web Enabled Database Interface Using Linux, MySQL, Apache, and PHP

Nashville Linux Users Group (September 1999)

Creating a Web Enabled Database Interface Using Linux, MySQL, Apache, and PHP

DFW Linux Users Group (July 1999)

Linux Specific Servers and Developer Systems

DFW Unix Users Group (July 1999)

NetWare 4.x Security

Guest Speaker, InfoShare '97, Federal Reserve Band of Dallas (1997)

Installing Linux to Multi-boot with Windows NT

DFW Linux Users Group (February 1999)

Configuring an Email List Server using SmartList

DFW Linux Users Group (February 1999)

Legato Networker

One-day "Speed Training" Class

Enterprise Services Department, PrimeCo PCS., Westlake, Texas (November 1997)

Hands On PC Supporting and Troubleshooting

Two-day Class

Multiple clients, Berger & Co., Dallas, Texas (August 1997)

Solaris for Administrators

Three-day Class

Geographic Information Systems Department, City of Dallas, Dallas, Texas (July 1997)

Solaris for Users

Two-day Class

Geographic Information Systems Department, City of Dallas, Dallas, Texas (July 1997)

DCE 1.1, Middleware, and a Proprietary Transaction Monitor Called Nexus

Two Morning Classes

Production Support Department, PrimeCo PCS., Westlake, Texas (May 1997)

TCP/IP

One-day Class

The Network Professionals Association of Dallas, Dallas, Texas (May 1997)

TCP/IP and the Math that Makes it Work

Single-evening Class

Consultants from The Network Practice, Berger & Co., Dallas, Texas (May 1997)

NetWare 4.1

One-day Class

The Network Professionals Association of Dallas, Dallas, Texas (May 1996)

Major Accomplishments

SystemImager

(1998 – Present)

I am the creator of the Open Source cluster install and update tool, SystemImager. SystemImager is a project I started in 1998 to do software distribution and operating system updates on large numbers of Solaris machines. Over time it has evolved into a multi-architecture, Linux-based cluster installation, update, and administration tool. Since its initial public release, SystemImager has steadily grown in popularity to become one of the most widely used methods of installing large numbers of Linux systems.

I currently maintain my role in the project as the lead architect and planner, the primary coder, and the primary public representative of the project. One of my most challenging roles in the project is in managing the core developers and all of the contributors from around the world. I have the final say with regard to features or code that is added; I must carefully balance the needs of those that contribute the most to the project, and therefore have the greatest vested interest, with the general needs of the user base as a whole. I must also ensure that funding provided by outside organizations, such as Hewlett-Packard and NetZero, does not conflict with the project's features and goals as desired by the Open Source community contributing to and using the code.

SystemImager currently weighs in at roughly 50,000 lines of code, not including other software distributed as part of the SystemImager packages, such as the Linux kernel and rsync. I have a core team of 6 with over 60 additional formally listed contributors. One of my most interesting technical challenges with SystemImager was the creation of BOEL (Brian's Own Embedded Linux), which is the embedded Linux distribution that runs on target machines during the imaging process. This distribution is designed to be easily to maintain and easy to modify.

SystemImager has a simple usage methodology that allows a user to start with a working system, as opposed to using a "recipe", and replicate that system's image across any number of target machines. Once a machine is installed, it can be "synced" to match an updated image, pulling only those files that are different across the network. This makes for fast and easy software distribution and operating system updates. This syncing capability also provides a solid fall-back mechanism for production deployments. By saving a "current working image" prior to a new deployment, one can simply sync managed machines

back to the “current working image” if the software or updates in the new deployment are found to be buggy or a security risk.

I designed SystemImager with an extremely flexible architecture. For example, it currently supports all Linux distributions and many different file systems, including ext2, ext3, FAT, reiserfs, and JFS. The initial Linux implementation was created on the i386 architecture but has been ported to the IA64 and PowerPC architectures. Ports to the s390 (IBM mainframe) and Alpha architectures have begun. SystemImager is consistently ranked as one of the top 10 most active and top 10 most frequently downloaded projects on the SourceForge Clustering Foundry, and at the time of this writing, it is ranked as the second most downloaded package, topped only by openMosix.

Some of the more notable organizations that use SystemImager include AOL, Argonne National Laboratory, the Center for Atomic-Scale Materials Physics (Denmark), Compaq, the government of Spain, Hewlett-Packard, IBM, Los Alamos National Laboratory, NBC, NCSA, NetZero, Oracle, Universidade Federal do Rio de Janeiro (Brazil), and Verio. Funding for development of specific SystemImager features has been provided by a number of companies including Hewlett-Packard, Compaq, and NetZero.

SystemImager is also used to provide critical features in a number of commercial and Open Source software products. Some of these include System Installation Suite, OSCAR (the popular clustering software), and certain products from Platform computing. Recently, SystemImager was selected to provide the "Software live upgrade" feature of OSDL's Carrier Grade Linux.

Bald Guy Software (2001 – 2003)

I founded Bald Guy Software in June 2001 and have been profitable from day one. In a short period of time, and in a down economy, I have developed a notable customer base including Hewlett-Packard, Compaq, OSDN, and Promicro Systems. Bald Guy Software has a team of several contractors that are drawn upon on an as-needed basis, with skills ranging from clusters, to programming, to security and intrusion detection systems. Historically, as many as four of these contractors have been engaged at any one time. My main line of business is software and services with a focus on cluster related technologies. Available professional services include project management, software development, system architecture, and system administration.

I do not use an outside service to find customers and have negotiated contracts directly with a number of organizations including Compaq (pre-merger), Hewlett-Packard, and OSDN. I handle the fulfillment of multiple contracts at any given time, and I am usually the primary producer. Some of my contracts are complex, fixed bid, project based contracts, while others are simple hourly rate contracts.

As the head of a small corporation, I also manage the financial responsibilities of the business, including billing and receiving, payroll, and tracking expenses and depreciable goods.

Nexus Monitoring System PrimeCo, PCS. (1997)

While at PrimeCo, I designed, developed, and implemented a client/server tool for monitoring the health of a proprietary transaction monitor called Nexus. Nexus is responsible for providing reliable delivery of transactions between a number of databases, billing systems, and other systems holding mobile phone customer information.

My role in this project was as the sole designer and developer. I set all schedules and testing requirements and personally moved the tool from development through acceptance testing and final implementation. After the tool was successfully running in the production environment, I provided documentation and training to the Production Support Department.

Programming languages and software components that I used in the design of this monitoring system include ksh, nawk, SQL*Plus, Oracle, and BMC Patrol. The resultant system monitors error output from

Nexus, makes intelligent decisions, and takes appropriate action based on rules defined in administrator updateable tables. When appropriate, the Nexus Monitoring System triggers a warning or error status and pops up a dialog box on the BMC Patrol enterprise management consoles in the Production Support Department.

In an automated problem resolution scenario, the Nexus Monitoring System will

- reboot machines, restart daemon processes, or delete offending files as appropriate;
- create a trouble ticket in the help desk system (Scopus); and
- alpha page the individual tasked with responsibility for the system, including information on the offending error and the trouble ticket number.

When this system was implemented, the need for on-call personnel to become involved in problem resolution dropped by an estimated 60%, and uptime of the Nexus system increased by an estimated 4.2%. These are significant numbers for a production system in a telecommunications environment.

Diabetes Mellitus Patient Tracking Database

UT Southwestern Medical Center (1993)

I created a relational database and application for tracking clinical information about patients with diabetes mellitus. This is a moderately complex relational system comprising dozens of relationships and forms. Information tracked includes everything from patient age and genetic history to glucose tolerance test results and human leukocyte antigen class types and statistics. In addition, this database is used to track cryogenically stored blood samples and data from certain experiments. Users of this system included research scientists in the Molecular Immunology Center (under J. Donald Capra) and a partnering clinical group at Children's Medical Center of Dallas.