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## **Career Summary**

My career has included stints as a developer, systems administrator, and tools & automation developer both as a full time employee and, for the majority of my career, as a consultant. At all times my focus has been Unix and Unix-like systems. This has led me to a wide range of experience with all major flavors of Unix. As an independent consultant, I have worked with a number of teams on both large and small software/hardware projects.

## **Certifications**

- AWS Certified Cloud Practitioner (CLF)

## **Job Experience**

### **Addepar, Remote Nov 2021 to Dec 2022 - Lead Senior Engineer**

I was the lead senior engineer in the development of a system that allowed Addepar to quickly spin up what was called an Arcade which was a platform based on AWS resources such as EC2, ALB/ELB, Route53, S3, EKS, and ECR. This platform was used to host Addepar analysis tools for their clients.

### **Google, Mountain View, CA. May 2020 to July 2021 - DevOps Engineer**

I was a senior DevOps Engineer for a consumer product developed and sold by Google. Among my responsibilities were;

- Developed and maintained inventory of devices and testing labs
- Planning and building out new testing labs
- Re-working existing labs to accommodate new deployments of devices and correct deficiencies with the existing setup
- Working with software and hardware developers to deploy new generations of devices and embedded system as well as troubleshooting and fixing existing deployments.
- Writing scripts to monitor the devices and automate the maintenances of the device inventory.

## **Juniper Networks, Sunnyvale, CA. Jan 2018 to Jan 2020 - Senior Systems Engineer/ Sr. DevOps Engineer**

I was an FTE of Taos and was on assignment to Juniper Networks. During my tenure I have been assigned to Juniper Networks where I functioned as a Senior Systems Engineer / Senior DevOps Engineer. As a staff consultant I was assigned to a large network equipment manufacturer. During my tenure at this engagement I accomplished the following:

- One of three principal senior DevOps Engineer responsible for designing, implementing and deploying an internal to Juniper an OS package repository of CentOS, FreeBSD, RedHat and Ubuntu.
- Developed tools, in Python and Perl, using Git to automate the generation of release notes based on the state of OS image being built.
- Participated in the design and deployment of the system to build in-house packages for the various OS.
- Participated in setup of Foreman and Packer and in addition created a system of config files for both Foreman and Packer.
- Assisted in the setup and configuration of Jenkins.
- Did preliminary work to setup instance creation in AWS using Terraform..

## **Intuit, Mountain View, CA. May 2017 to Dec 2017 - Senior Systems Engineer/ Sr. Devops Engineer**

At Intuit I was a member of a team charged with migrating various services running on VmWare virtual machines to AWS. My duties are doing bi-weekly deployments of WAR files to both testing and production servers, modifying and updating existing chef config files, creating new chef config files as services are moved from internal VmWare servers to AWS, working with both development and testing teams debug and resolve issues with a deployment, as well as doing various day to day tasks to keep the existing infrastructure running, and documenting existing systems. Enhanced several tools, written in Python, to generate release notes and release announcements.

## **Taos, San Jose, Ca. Jul 2015 to Jan 2017 - Senior Systems Engineer/ Sr. Devops Engineer**

I was an FTE of Taos and got sent out on assignments. During my tenure I have been assigned to three clients where I functioned as a Senior Linux Systems Engineer. These clients were;

- 2K Games - Using Redhat / Centos on VmWare rewrote and corrected Puppet modules and manifests.
- Suitable Technologies. - Using Debian / Ubuntu patched and enhanced company developed system service and built deb package
- Pinterest - Using Debian / Ubuntu running in AWS space enhanced and corrected Puppet modules and manifests and enhanced and developed tools, using Python, to monitor Vms in AWS space.

## **Amyris, Emerville, Ca. Jan 2015 to Jun 2015 - Senior DevOps Engineer.**

I was responsible for all Linux servers (Debian/Ubuntu) at Amyris. Among the tasks performed was; updating and upgrading all servers to Ubuntu 14.04 LTS, setting up a puppet system to manage all the Linux servers, migrating VMs from VmWare and VirtualBox to Hyper-V, setting up Nagios and Munin to monitor these systems. In addition to the previously mentioned tasks I was responsible for meeting with the software engineers and supporting their needs in terms of hardware and packages.

**eBay, San Jose Ca. Jan 14 to Dec 2014 - Systems Engineer.**

As a member of the eBay classified team I am responsible for the day to day maintenance of the servers and services that supported eBay classified and it's related properties. In addition to these tasks I am also responsible for small projects such as brining on-line new servers, retiring old servers, migrating servers from one service to new services and developing tools to automate the maintenance and management of the servers. Our servers are a mixture of Debian/Ubuntu and Redhat/CentOS in several data-centers in both the Netherlands and US.

**Yahoo, Sunnyvale Ca. - Mar 13 to Dec 13 - System Engineer & DevOp.**

As a member of the Sponsored Search group I was responsible for the day to day maintenance of a Yahoo internal system known as Panama. Additionally I, as part of the group, was responsible for regular maintenance of our groups servers most of which were running RedHat 5.6 and 5.8

**Tiny Speck, San Francisco Ca, - Sep 12 to Nov 12 - Senior System Admin & Tools developer.**

As a member of the system administration group I was responsible for maintaining the various servers, a mixture of RedHat 5.6 and 5.8, in Tiny Speck's AWS EC2 environment.

**StubHub, San Francisco Ca, - Aug 11 to Aug 12 - Senior System Admin & Tools developer.**

As a member of the provisioning team I am responsible for tools development and process automation. My major focus has been the automation of the process where the build environments, which contain 45 virtual machines running Centos, are created using VMWare, Cobbler and Puppet. This effort is across several data center each of which contains 75 developer environment each of which contains 45 virtual machines

**Berkeley National Lab, Berkeley Ca. - Oct 09 to Jun 11 - Senior System Admin**

As a member of the ESnet staff I was responsible for the maintenance and upgrades of the FreeBSD measurement machines that are distributed across America as well as in-house web servers. I also acted as the day-to-day webmaster, my duties including scripting in Perl and PHP as well helping in the migration of the existing website to one based on Silver Stripe. I also functioned as a project manager for the project to replace the existing trouble ticket system, Remedy, with Service Now.

**Juniper Networks, Sunnyvale Ca. - Jun 06 to Aug 09 - Senior System Admin**

Aside from my normal duties as systems administrator, I was responsible for the creation, development and maintenance of an internal to Juniper mirror of the FreeBSD repository. This included the source code and ports distfiles. I was responsible for developing the tools and automation process to create and maintained a FreeBSD kickstart system as well as the creation of internal releases of FreeBSD. A big part of my duties included testing and purchasing of hardware for the engineering group.

### **Cisco, San Jose, Ca. - Dec 05 to Jun 06 - System Admin**

As a member of the EMS (Enterprise Messaging Services) group, I provided support for the first tier internal mail servers. I also spent 60% of my time as a Perl developer working on creation and maintenance of tools to support the EMS group

### **Open Country, Belmont, Ca. - March 05 to December 05**

Senior System Administrator. I was responsible for a complete revamp and expansion of this startup's infrastructure. This included installing a new server running FreeBSD 5.4 in a collocation facility. This server was the external email server, running Postfix, a web server running Apache2 and DNS server. I completely rebuilt the entire internal network with a FreeBSD firewall. In addition to my day-to-day duties maintaining and installing over 100 FreeBSD and Linux servers, I also was responsible for maintaining several dozen Windows systems. Aside from my duties as a system admin, I was the build engineer responsible for the maintenance of the CVS system and construction of the build system and a weekly build and release schedule.

### **Scimagix, San Mateo, Ca. - April 04 to March 05**

Senior System Administrator. I was responsible for Linux (Redhat and Suse), Solaris (8 and 9), Windows 2000 and FreeBSD (4.10 and 5.2) systems at a number of clients. Duties included daily and weekly backups, creation of new user accounts with email access on both the internal Windows 2000 exchange server and the outside mail server. Setting up email systems (Sendmail and Postfix) with spam filtering (SpamAssassin and Dspam) and anti-virus (Clam AV) capabilities. Configured and maintained DNS for a number of domains. Revamped the web server using the latest Apache to server web pages for a number of domains. Updated Tomcat from version 3.x to 4.1 with a number of small changes to the configuration. Performed additional duties as an administrator of CVS and Bugzilla. I was also involved in the design and planning of changes to the system infrastructure to reflect the movement of the software development from San Mateo, Ca. to Pune, India.

### **CIS Data, Albany, Ca. - Feb. 04 to April 04**

Senior System Administrator. I was responsible for migration of desktop system from a mixture of Windows 98 and Windows 2000 to Apple OSX 10.3. Maintained a very large DNS system using DLZ on MySQL. I also migrated the existing web and mail servers from Apache and Sendmail running on Linux (Redhat) to Apache and postfix running on FreeBSD. Wrote a number of Perl scripts to aid in the migration from Linux to FreeBSD. Patched or rewrote a number of Perl scripts that were used in the creation of user accounts and performed the backups.

### **Gracenote, Emeryville, Ca. - Sept. 03 to Jan. 04**

Senior Software Engineer. I was responsible for making modifications to the existing software and developing new software. This software was used to perform lookups of CD information based on a TOC hash. This work was done in C and Java on Solaris (8 and 9) and Linux (Redhat). I was also responsible for developing a test harness in Java and porting the existing system from 32 bit Solaris to 64 bit Solaris.

### **PEI, Chicago, Il. - March 03 to Sept. 03**

Senior System Administrator. I was responsible for maintaining the existing web site and adding additional infrastructure and software that was part of the ongoing development of the site. This work included maintaining DNS, Sendmail and Postfix mail system, and Apache, Tomcat & JBoss system. Additionally I was performing backup, assisting the legal department with copyright filings and was involved in the process of converting an existing Windows ASP to a Tomcat & JBoss system. I wrote a number (~25) of Perl scripts that were used to maintain the site. I was also responsible for updating the systems description documents and maintaining the inventory of hardware and software licenses. This work was performed on a mixture of Solaris (7, 8, and 9), Linux (Redhat) and FreeBSD systems.

### **BCN Data, San Francisco, Ca. - April 01 to October 01**

Senior System Admin and Senior Software Engineer. Responsible for setting up and maintaining development and test systems as well as day-to-day system admin duties. Also functioned as Senior Software Engineer, fixing existing product and developing new features to mature utilities billing package. This involved bug fixes and a small bit of code development in a variety of languages (C, C++, Java, Tcl, and Perl) mostly on Solaris 7.

### **MusicBank.com, San Francisco - July 00 to February 01**

Senior Systems Admin. Responsible for designing and setting up infrastructure for this online company. I was further tasked with establishing a repository of system descriptions and documenting SOP (Standard Operating Procedures) Also responsible for writing Perl scripts to manage web traffic monitoring, image manipulation, and verifying MP3 content. Managed 3 Systems Admins on this project. Administered Solaris, FreeBSD, and Linux machines as well as Cisco routers, switches, Weblogic and Apache web servers.

### **Itrade.com, San Jose, Ca. - April 00 to June 00**

System Admin and Webmaster. Responsible for day-to-day tasks on production and development systems. Administered Solaris, Linux and FreeBSD machines.

### **Sendmail, Inc., Emeryville, Ca. - August 99 to April 00**

Technical Webmaster. Responsible for infrastructure and backend development and support of Sendmail .com and .net web site including DNS, Apache and Stronghold configuration, CGI, and Perl scripting. Also responsible for design, deployment and maintenance of tape backup system. These were performed on a variety of Unix systems but primarily FreeBSD, Solaris, and Linux.

### **ISP Channel, Mountain View, Ca. - March 99 to August 99**

Unix systems admin and Unix software engineer. Supported FreeBSD, Linux, and Solaris based ISP. Partnered with another systems admin to support ISP with over 3000 customers and web sites. Duties included DNS, networking, Apache configuration, CGI, Perl scripting.

### **United Airlines, South San Francisco, Ca. - Sept. 98 to March 99**

Unix system admin. Supported HP-UX 9.x, 10.x, and 11.0 on a wide range of HP platforms. Primary focus was DNS and AFS.

### **ITN, Palo Alto, Ca. - Jan. 98 to Sept. 98**

Designed, developed, and implemented a bulk email system. This system was written in C and C++ on FreeBSD and Solaris using MySQL.

### **Sun, Palo Alto, CA. - Jan. 98 to May 98**

Member of a QA team testing a firewall product.

### **Synopsys, Mountain View, CA. - Oct. 97 to Jan. 98**

As a member of a team of Sys Admins I performed sys admin duties on a large number of SunOS, Solaris, and HP boxes. I was involved in NIS, NFS, user accounts, and disk space issues. I was tasked as the HP sys admin responsible for disk space, software and hardware installation and upgrades as well as integrating HP systems in to a majority Solaris environment.

### **HP, Cupertino, CA. - May 97 to Oct. 97**

As a member of the MachDep group I worked on patch releases for the various models of HP machines. This worked involved system administration of HP system, writing Shell and Perl scripts, testing and documentation.

**FreeGate, Sunnyvale, CA. - December 96 to May 97**

Designed, developed and implemented a DNS security filter server. Was also responsible for all DNS issues. This work was done in C and Perl on FreeBSD 2.X.

**HP, Cupertino, CA. - June 96 to December 96**

Designed and wrote system integration tools in C and PERL on HP-UX 10.01, 10.10, 10.20 to support OS integration team.

**APT, Chicago, IL. - March 96 to June 96**

Designed, selected, and implemented a test bed data center. This project required me to meet and work with the hardware and software vendors, building contractors, users, and management in order to define the requirements, select the hardware and software solutions and to implement and supervise the implementation on the requirements. The hardware selected was a HP K410, and EMC disk array, and Storage Dimensions backup solution.

**Navistar, Chicago, IL. - July 95 to March 96**

Designed and developed TCP/IP based communication system to replace IBM mainframe based legacy system. This system performs communications between the mainframe and the dealer clients over the Internet. This system was developed in C, shell, and PERL on FreeBSD (4.4BSD) system with parallel development/port on AT&T (SVR4) and NCR towers (SVR2 & 3).

**Motorola, Chicago, IL. - March 95 to July 95**

Performed tools development to support developers of Cellular Switch software. Among the tools provided to the developers was a tool to calculate the maximum stack usage of a code module. Developed a tool to take developers module, check into revision control system, format, and produce package ready for code inspection. Also developed tool to report the current status of any and all PR. This work was done in C and PERL on Sun workstations (SunOS).

**BPSI, Chicago, IL. - Jan. 95 to March 95**

Developed a subsystem that would allow a wireless communication system to bootstrap its' configuration from a preexisting database. This system would automatically record the changes in the system configuration so that when the system came up the configuration would match the configuration when it went down. This work was done on C using Ctree on an IBM RS/6000 using AIX 3.2.3 and 3.2.5

**Baxter, Chicago, IL. - August 94 to Jan. 95**

As a team member developed a system that managed and controlled a number of networked medication dispensing machines. This system also managed the inventory of medication in a central database and interfaced with the existing hospital billing system. This system was written in C and ran on IBM-PCs running UnixWare (SVR4) and FreeBSD (4.4BSD).

**CCH, Chicago, IL. - July 94**

Developed a number of test procedures to determine if a UNIX system had been properly configured and to ascertain its' current health. These scripts were written in Korn shell, PERL, and AWK and ran on Sun (Solaris) and HP (HP-UX) workstations.

**Responce Call, Inc., Chicago, IL. - Jan 94 to June 94**

Developed a telemarketing system. This system was written in C on a RS/6000 under AIX 3.2.3 with the use of the c-tree and d-tree software libraries. Also performed system administration on RS/6000, SCO, and FreeBSD (4.4BSD) system. Designed and installed network. Performed initial work to get client connected to the Internet.

**Reuters, Chicago, IL. - July 93 to Jan. 94**

Enhanced and maintained several UNIX device drivers. I was also responsible for building and maintaining several networks including work with NFS and NIS, setting up new UNIX systems, installing hardware, modifying the UNIX kernel where needed, configuration of UNIX kernel, and a senior resource on UNIX systems in general. This work was performed on HP (HP-UX), SUN (SunOS), DEC Alpha (OSF/1), and IBM RS/6000 (AIX) workstations.

**Abbot Labs, Chicago, IL. - May 93 to July 93**

Performed system administration on a large network of HP (HP-UX) and Sun (SunOS & Solaris) workstations.

**A.C. Neilsen, Chicago, IL. - March 93 to May 93**

Implemented an API to provide a C and C++ interface to a network database. This work was done in C and C++ on Sun (SunOS) workstations and IBM-PC running MS-Windows.

**Motorola, Chicago, IL. - Jan. 93 to March 93**

Developed a number of modules to emulate the system level interface of Tandem. Also developed a number of modules to allow phone calls to transmit and receive roaming information (IS-41). This work was done in C on Sun (SunOS) Workstations.

**CBIS, Chicago, IL. - July 92 to Jan. 93**

Designed and developed a system to allow a large number of POS to communicate with a number of IBM Mainframes. This system was written in C and ran on Sun Systems (SunOS). This system utilized asynchronous communications to the POS and 3270 API to the mainframes over Ethernet. The UNIX system was a client/server system with a number of daemon process performing interprocess communications by Berkeley Sockets. Development was also done to incorporate X.25 and LU6.2. I was also a resource to the organization for UNIX and C. I developed and implemented revision control systems, C coding standards, client/server architecture standards, standard tool selection, and the complete Sun network.

**Motorola, Chicago, IL. - Feb. 92 to July 92**

Developed a large number of modules to manipulate SNMP packets being sent and received across a trunked radio system. I also developed modules in C and embedded SQL, to update a database with the results of various transmissions and network realignments. I performed UNIX systems administration on Apollo and HP workstations.

## **Independent Consultant, Minneapolis, MN. - Sept. 89 to Feb. 92**

### **\* Hitchcock Industries**

Performed Systems Administration and wrote several scripts on an IBM-PC 386/33 running Interactive UNIX (SVR4)

### **\* St. Paul Software**

Developed modules to enhance an existing EDI (X.12) package to allow it to use UN EDIFACT standard documents and to increase system performance. This work encompassed designing and implementing a command parser/compiler. This work was performed on an IBM-PC 386/33 running SCO Open Desktop (SVR4) with ports done to Sun workstations, NeXT Stations, and Bull servers.

### **\* Pharmacy Delteck**

Co-wrote a system to do process control and to communicate with a number of bar code readers. This system was written in C and ran on an IBM-PC AT.

### **\* Musicland Group**

Performed maintenance and enhanced a warehouse package. This application was written in C and ran on a Stratus System 88. Among the projects I completed was a reorganization and rewrite of the RDT subsystem into a client/server to allow the RDT's to access the warehouse application in a more efficient manner.

### **\* Medtronics**

Developed a translator of netlists from one CAE simulator to another. This work was done in C under UNIX on SUN and Apollo workstations. Preliminary work to develop an X Window/Motif shell was performed.

## **COMDAC Support Facility, Portsmouth, VA. - Dec, 86 to Sept. 89**

Served as a staff programmer in support of the COMDAC system used aboard the USCG Famous Class Vessels. I was responsible for software analysis, module re-coding and development, writing test patches to object code, writing instruction files for link / loader, module and integration testing, system testing, and corresponding documentation support. Performed software maintenance and development in the areas of Sensor Control, Signal Processing, System Configuration and Communications. Most of this work was done in C on DEC VAX 11/7XXs running both VMS and BSD 4.X

## **Management Information Concepts, Inc, Chesapeake, VA. - May 84 to Oct. 85**

As a junior programmer I was responsible for development and testing code modules as per spec. These modules were part of an accounting package developed and maintained by M.I.C. These modules were written in COBOL on a Data General MV-6000 running AOS/VS.