BRETT E. WYNKOOP
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HARDWARE

Sun, HP, PC, Next, IBM RS6000, Apple, Dell, EMC

SOFTWARE

Operating Systems: UNIX (AIX, BSD/OS, FreeBSD [UFS/ZFS], HPUX, Next, SCO, Sun OS, Solaris [UFS/ZFS], UnixWare, OS X), OS-9, Coherent, Mach, MS-Windows (XP, Server 2003), Linux (Debian, Red Hat, CentOS, SUSE, Ubuntu)

Firewall Systems: TIS Gauntlet, IP-Filter, IPFW, IPChains, PFSense, Netscreen

Web Servers: Netscape, Apache, Plexus, thttpd, SWS, Resin, Tomcat, and Nginx

Application Servers: Jetty, Tomcat, Glassfish, MuleSoft

Languages: C, AWK, BASIC, FORTRAN, 6809 Assembly, IBM 370 Assembly, BASIC09, HTML, PERL, SH, KSH, CSH, BASH

PROFESSIONAL EXPERIENCE

Consulting Systems Engineer (2/2017 – Present)

Athena Health Systems – Core Infrastructure Site Reliability Engineer (9/2020 – 3 month contract)

Redesigned outbound proxy services to allow for redundancy, scalability, and greater security using squid, bounce, consul, and puppet. Built proof of concept systems. Automated scalability with puppet tied to pre-existing in house software for spinning up private cloud instances. Deployed new servers. Mentored junior staff.

Bloomberg – Ticker Plant TechOps Engineer (9/2018 – 9/2019)

Deploy ticker plant systems using in house automation. Provide trouble shooting of deployment issues and provide feedback to automation programing staff on fixes to any issues encountered. Discover root cause of any failures in system automation or operation of recently deployed ticker plant systems and remediate the same. Systems are based on Linux, Solaris, and AIX. Automation is based on Ansible. Install upgrades of both Operating System Software and in house applications. Train new team members. Troubleshoot in house code written in Perl, Shell and Python. Participate in Agile Sprints to improve both code and documentation. Serve as alternate scrum master as needed. The spot is part project management, part QC/beta testing, part programing and partly system administration.

International Rescue Committee (1/2018 – 3/2018)

Provided cleanup and maintenance of Ubuntu and Red Hat Linux systems, corrected misconfigurations in Nagios and Puppet, provided security audit of web applications, provided audit of DNS and suggestions for remediation of issues, provided security audit of database servers. Audited AWS and Azure use for security, cost, and robustness. Provided engineering guidelines to the application development team for proper use of AWS and Azure cloud resources. Provided engineering guidelines to application development team on proper use of Linux Systems and databases including MySQL, MS-SQL, and PostgreSQL. Advised on best practices for VMWare ESXI hosted systems.

Web Design and Hosting Company (2/2017 – 4/2017)

Provided emergency support when the company's system administrator went missing with no communication to company management. Migrated web and mail servers from one hosting provider to another with zero down time. These servers handled web sites and email for several thousand domains. Solved outbound email rejection and capacity issues.

Education startup (3/2017 – 7/2017)

Responsible for developing educational curriculum in Web Development, Systems Engineering, Systems Security, and Cloud Engineering for a startup educational institution. Designed and implemented virtualized lab infrastructure for use by students and faculty. Taught introductory classes. Provided technical vetting during the hiring process for long term instructors.

Physical Security Startup (7/2017 – 9/2017)

Designed 2 way radio network for physical security company to allow communication between all guard posts and central command center. Specified radio equipment and antennas. Provided guidance on FCC licensing. Designed initial server infrastructure to provide for secure redundant storage of company records and video surveillance recordings.

AdMarketPlace – Senior Systems Engineer – (7/2015 – 11/2016)

Senior member of a 5 member team of systems and security engineers responsible for all aspects of technology in a high traffic, low

latency, transaction based web business housed in 2 colocation facilities using roughly 500 physical servers, some of which ran KVM and VMWARE ESXI to provide virtual servers. Servers were a mix of RHEL/CentOS and FreeBSD. Worked with developers to better architect solutions to business problems including high volume ad serving and the process of spot pricing of advertising for both publishers and advertisers. Major accomplishments include providing solutions to problems that had been lingering at the firm for some time and a successful forklift move of an entire data center on short notice, on time with zero downtime to the firm or its customers and no loss of revenue, the design of a secure clustered SOLR infrastructure and assisted the lead database engineer with the design and implementation of a bicoastal database cluster for MYSQL and vertica. Created puppet manifests and administered KVM servers. Wrote system automation software. Developed LDAP authentication plugin for SQUID. Wrote custom Nagios monitors. Mitigated DDOS attack against company's advertisement servers using automated methods developed on the fly during the attack. Maintained clustered high performance bid/match servers where transactions had to happen in miliseconds.

McGraw Hill Financial – Product Engineer – Contract Consultant (01/2014 – 01/2015)

Part of the team that investigated new technologies and set standards and direction for technology use at MHF. Areas of responsibility included peer reviewing work of other product engineers, researching new technologies and writing position papers about those technologies as well as providing direction to solutions engineers and operations staff on use of new technologies. Technologies areas included Amazon Web Services, Solaris, Linux, Web, Security, AD Authentication, and Load Balancing. Acted as the last level of escalation on problems with AWS, DNS, and Web Services. Provided consultation on enterprise email issues.

Internet Systems Consortium – Systems Engineer (10/2012 – 7/2013)

Supported UNIX (many flavors) and Network infrastructure used in the development of ISC BIND, DHCP and other internet tools maintained by ISC.ORG. Supported the F.Root servers, arranged and supervised a forklift move of the New York City F.Root server. Provided systems and network support FreeSoftware projects hosted at ISC facilities. Discovered root causes of network or system outages and took action to remediate those outages. Defended against DDOS attacks.

Hara Partners – Vice President of Technologies (3/2012 – 10/2012)

Provide design and implementation of new high performance server farm to support high traffic ecommerce web sites based on Magento ecommerce software. Systems made use of FreeBSD Jails and ZFS with snapshot backups transferred to warm standby servers to provide redundant systems in case of hardware failure. Educated company staff in best practices for high performance web sites and implemented PCI compliant systems. Provided network redesign to improve security and reliability. Implemented isolated development, QA and production environments. Provided proper tuning of MYSQL and APACHE servers. Implemented security system and redundancy for SOLR search servers which included load balancing and caching. Implemented load balancing firewalls with auto failover to backup links based on IPFW and POUND. Manage and mentor the systems team.

Investor Analytics – Systems and Networking Group Team Lead (5/2011 – 3/2012)

Responsible for system and network administration of Linux, FreeBSD and MS-Windows servers used for email, web, database, dns and computer systems. Management and design of networks VPNs, firewalls and phone systems. Determine the best technical solutions for business problems. Mentor other team members. Manage EMC & Tegile SAN storage. Administer Tomcat, Apache, VMWARE ESXI, and MySQL. Specify and purchase equipment and services in support of business needs.

ISPrime.com – Senior Systems Engineer (9/2010 – 5/2011)

Maintain and install Gnu/Linux and FreeBSD systems in a managed hosting environment consisting of over 3000 servers used for web, email, database and DNS services. Discover and remedy security issues on customer servers. Mentor junior staff members and educate customers on best practices. Write systems administration automation software. Install and configure apache, nginx, djbdns, mysql, sendmail, postfix, red5 and various web applications as requested by clients. Configure firewalls on FreeBSD and GNU/Linux systems. Provide defense against DDOS attacks including automated defense systems.

Tekhq.com – Senior Systems Consultant (6/2009 – 8/2010)

- *Software Development Startup (3/2010)* – Migrated 10 Linux backend servers from data center in France to virtual systems using the **Amazon Web Services.** Designed disaster recovery plan. Implemented backup system based on S3 cloud storage. Provided guidance on shell programming & DNS. Debugged problems with custom installation of MYSQL, PHP, and APACHE. Setup system monitoring.

- *Travel web site (11/2009)* – Analyzed 3 tier infrastructure based on FreeBSD 6, and provided design and roadmap for upgrade to FreeBSD 8 as well as improvements to performance and scalability.

- *Social networking web site (9/2009)* – System was based on Ubuntu GNU/Linux running as a 3 tier application using the Amazon web services cloud to provide virtual MYSQL, APACHE, and NGINX servers that handled client traffic. Analyzed security, provided suggestions for improved stability and maintainability, fixed issues with delivery of high volumes of outbound email, designed DYNAMIC DNS system to respond to unique operational issues generated by using the AWS cloud. Designed automated system monitoring and alerting based on custom auto configuration of Zabbix specific to the AWS cloud.

- *Financial Services Firm (5/2009 – 7/2009)* – Updated library of several hundred free software packages to the latest stable

versions in support of a major push to migrate firm's critical infrastructure from Solaris to Red Hat Enterprise Linux.

Yards Creek Soaring – Technologist (8/2008 - 5/2009)

Migrated web site from Microsoft IIS to LAMP (Linux/Apache/Mysql/Perl) and optimized for search engine ranking in the target market. Installed new program driven features including a discussion section, photo gallery, live runway camera, weather reports, Installed mail server with spam filtering using Sendmail and ASSP. Setup mailing list with web based interface to allow customers and potential customers to sign up for newsletters. Expanded student pilot resources on the site. Update the web site and add new features on an ongoing basis. Maintain MS-Windows desktop computers in the FBO. Maintain 2 way radio equipment in aircraft and the FBO. Maintain Mail/DNS/Web servers.

Imperatore School of Science and Arts @ Stevens Institute - Director of Technology (11/2006 - 7/2008)

Hands on manager with a staff of 3 full time and 15 part time direct reports. Responsible for the operation of Solaris, NetBSD, Linux and FreeBSD servers as well as the hundreds of desktop Macintosh, MS-Windows, and NetBSD clients. Prepared department budget, and annual personnel evaluations. Recommended technical solutions to problems posed by teaching and research staff. Maintained digital video and audio recording studios. Assured proper operation of SMTP, IMAP, POP, NFS, NIS, HTTP and DNS services. Maintained MYSQL and Postgres database servers. Supported 2 high performance clusters, 1 NetBSD and 1 Solaris 10. Supported High Performance Cluster used by Physics Department.

Wynn Data Ltd. - Systems Consultant - Technical Manager (3/94 - 11/2006)

- Clients include: HSBC, Citibank, Chase, Bank One, National Hemophilia Foundation, ESPP internet services, Third Millennium Marketing, US Navy, CIBC, New York City Human Resources Administration, as well as numerous ISP and web hosting companies

- Determined client needs and assigned correct technical resource to the project.

- Provided annual personal reviews for technical staff & determined compensation.

- System migration to Solaris 10

- Solve problems involving ZFS, NFS, NIS, DNS, SMTP, POP, IMAP, HTTP, and SMB

- Y2K testing and remediation on AIX, Solaris, HPUX, SunOS, BSD/OS, Linux, & FreeBSD Systems

- Security analysis and hardening of AIX, Solaris, HPUX, SunOS, BSD/OS, Linux, & FreeBSD Systems.

- Documented standard operating procedures and prepared run books for operations staff

- Firewall design, implementation, testing, updating and monitoring

- Intrusion Detection System design and implementation and automation

- Mail server design and implementation for large & small networks

- Spam and malicious email filtering at the network edge and the mail server

- Multi-platform open standards VPN implementation

- System and network security analysis for SAN devices and heterogeneous MS-Windows/Unix networks

- Secure mainframe and VMS remote access solutions

- Web server design, implementation and configuration using Apache, Netscape, thttpd, plexus, minihttpd, and ddshttpd with and without SSL

- Post intrusion analysis and traceback

- Plan, and execute data center moves

- Build custom System Administration automation tools

- Build custom web applications based on Free Software using Perl, C, and PHP

- Design and implement turnkey networks for small and medium size businesses

- System performance analyses & optimizations for web servers, mail servers, compute servers and file servers

- Disaster recovery planning and implementation

- System tuning for low latency

- Construct High Performance Compute Clusters (HPC)

- Construct High Performance Web Servers

- Implement Squid web proxy to accelerate web access and provide management controls on web access

- Worked with EMC SCSI and SAN products to implement fault tolerant systems

- Implement secure market data feeds

- Design, optimize and install database servers using Oracle, Sybase and MySQL

- Maintained clustered application servers using Veritas Clustering

New School University - Adjunct Professor (9/98 - 2002) Instruct students in the fundamentals of the Unix operating system in lecture and hands on lab sessions. Topics covered include file systems, shells, editors, printing, and utilities. The course points out the differences between various flavors of Unix including BSD/OS, Linux, AIX, HPUX, SCO, Solaris and SunOS. Hands on sessions are on Solaris 2.6 and BSD/OS 4.0 systems.

Taught introduction to programming using /bin/sh, Perl and C. Classes include program design, use of programming tools (Make, CVS) and writing well commented code that peers can understand.

Taught network security and encryption. Designed the Unix, Perl and webmaster programs for the university.

Berkeley Software Design, Inc. - Member of The Technical Staff (9/95 - 6/98) Provided technical support services to customers using BSD/OS versions 1.1 - 3.1. System and network debugging, kernel crash analysis.

Designed many aspects of the default user environment in BSD/OS 2.1, 3.0 and 3.1, 4.0. This included both shell and Xwindow system environments. Ported freely available code to BSD/OS for inclusion in the released product. Added features to maxim the web based system admin tool that is part of BSD/OS. Assisted in design and testing of mailfilter, a drop in network appliance that blocks unsolicited bulk e-mail.

Group leader for BSDI's consulting division. Projects included on site building of turnkey ISP operations, porting software, system capacity planning, migration from NT to BSD/OS and security analysis/hardening of customer sites.

Project leader for integration of IPX (Netware) services into BSD/OS.

BlackRock Financial Management - Vice President of Technologies (3/92 - 3/94) Responsible for the entire technical infrastructure of BlackRock Financial Management. Manage department consisting of System and Database Administrators, Network Technicians, Voice Technicians, Computer Operations and User Support personnel, 10 direct reports. Responsible for personnel evaluations, bonus recommendations, annual pay raise determinations. Responsible for directing improvements to the firm's technical infrastructure and management of a two million dollar annual department budget.

Planned and supervised the move of the firm's entire technical infrastructure when the firm moved to new larger quarters. This included complete planning of the computer room, the voice communications room, voice and data networks, the trading positions as well as the entire cable plant for the firm.

Instructed programmers in proper use of a distributed computing system, and how to best take advantage of both peer to peer and client/server computing models. Instructed programmers in creation of programs that took advantage of resources available to the firm via outside dial up data services.

Redesigned the HPC on which OAS calculation processes ran to decrease time spent computing OAS figures by a factor of 8. Redesigned the configuration of the Sybase database server to improve reliability, speed and security.

Designed and implemented a secure verifiable system of backups for all computer data.

Integrated a Novell network of 30 computers into the main corporate TCP/IP Unix network. This allowed users of the Novell Network access to additional resources, data and services that all other corporate users had access to.

Designed a disaster recovery plan.

Developed a secure means of printing reports at a remote location via dial up line.

Moved the computing environment from a network of 1 server for both production and development supporting 20 clients to a configuration of 10 Servers and 200 clients (Sun workstations, Xterminals, PCs and Macs) on different networks all linked via a common backbone. Designed and supervised the construction of the firm's new data center, and trading floor, as well as the technical infrastructure needed throughout the entire office space. This project included design of both voice and data networks, power systems, backup systems. Specifying, and approving all equipment for the project. The trading floor supported 80 trading positions, all of which had redundant data communications and UPS support for Sun workstations and other critical equipment. All company servers and communications equipment were powered from a UPS system. The data center was monitored by a command and control computer to detect problems with the power, or environment and alert technical staff via both local alarm and pager. Supervised the move of all

equipment from the old location to the new location after construction was completed. New network/systems came on line over 1 weekend with no problems found.

Designed and implemented a high availability system to minimize traders suffering down time due to hardware or network failures. This system used off the shelf hardware and techniques developed in house at a significant savings over commercial products.

Lehman Brothers - Chief Systems Administrator/Operations Supervisor (5/91 - 3/92) Responsible for network planning and trouble shooting. Responsible for administration of a of large network Sun Workstations and servers as well as a few Nextstations interconnected to other networks consisting of MS-DOS and Mac machines as well as IBM VM systems. Set up LU6.2 links between IBM mainframe and Sun servers. Duties include maintaining the electronic mail and network news systems for over 2000 users and advising application developers on how best design software for a networked Unix environment taking full advantage of Xwindows and distributed processing. Supervise staff of 5 operations personal to maintain day to day services to users.

Davidge Data Systems - New York, NY - Director of Operations/Principle (4/90 - 5/91) Responsible for managing technical and field service departments to provide service and support for Unix based custom trading systems designed around Sun workstations and file servers. Determine equipment needed to support future software and networking products for the company's line of on-line transaction processing systems which are based on distributed processing using Sun file servers and Workstations as well as networked 80286/80386 MSDOS based PCs connected by ethernet or X.25 links.

Responsible for testing of new products and rewrites of code needed to bring products to release ready state. Reorganized existing product into a logical, easy to install and trouble shoot package that works in a generic version.

Responsible for managing in house development and production systems consisting of Sun file servers in a network of Sun3, Sun4, 386 Unix machines, and MS-DOS pcs. Take care of daily system administration as well as network and system planning.

Administer Sun3, and Sun4 systems and networks at remote client sites. Developed a fault tolerant trading system using Sun Workstations, off the shelf hardware and some custom software.

Davis, Polk, and Wardwell - New York, NY - Technical Support Supervisor (3/87 - 3/90) Supervised department consisting of computer operators, technicians, database specialist, and systems administrator, 10 direct reports. Responsible for annual personnel reviews and salary recommendations. Was responsible for computer operations, maintenance and networking of Unix systems from Sun and Pyramid, as well as 80386 systems using Xenix. The above Unix/Xenix systems served 1500 users at 5 sites in 3 different countries with transparent networking between sites.

Planned new installations and determined suitability of equipment for the firm's ongoing needs. Planned expansion of existing LAN and WAN systems as well as new LAN and WAN systems using TCP/IP over fiber, twisted pair, coax. Bridged LANs over DDS, T1 and satellite facilities to form a large international wan of Unix systems. Analyzed network problems.

Planed and supervised the construction of new Unix data center and networking systems for London office. This installation served 200 users and allowed them to network transparently with the Paris, New York, and Washington offices.

Planned and supervised construction of new voice and data communications center for Washington office.

EDUCATION

United States Merchant Marine Academy - Kings Point, NY - Degree earned: Bachelor of Science - Major: Nautical Science

PROFESSIONAL TRAINING - AT&T Dimension School, Briton Lee IDM School, Micom M6600 System Administrator School, Micom M6600 System Maintenance, Micom X.25 training, Sybase DBA School

PUBLICATIONS - SysAdmin, May, 1994, "The Netgroup Advantage," How to use netgroups to improve security and cut workload.

LICENSES & CERTIFICATIONS

FCC Extra Class Amateur Radio License, FCC General Radiotelephone License with RADAR endorsement, FAA Private Pilot Glider/ SEL/SES, PADI open water diver, USCG Captain 100 tons & Third Mate unlimited tonnage