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## **Objective**

- Currently seeking a position that will utilize my system administration, security, and programming skills.

## **Experience**

**Site Reliability Engineer, January 2006 - present**  
**Google, Inc., Mountain View, CA**  
**<http://www.google.com>**

- Unix system administration and Python programming.

**Sr. Linux Systems Administrator, January 2005 – May 2005**  
**Intech, LLC, Palm Beach Gardens, FL**  
**<http://www.intechjanus.com>**

- Architected new network from design to deployment utilizing Sangoma T1 cards and low-cost small form factor Linux PCs for routers and firewalls. This lowered power consumption for servers and provided 'dispensible' systems that could be easily replaced if any were to fail.
- Evaluated esoteric hardware at the time (ATA over Ethernet, small form factor PCs for servers)
- Setup CommuniGate Pro mail server running on Debian Linux for all employee email
  - Included MAPI Outlook groupware functionality
  - Setup filters for ClamAV virus scanning and SpamAssassin spam scanning
  - Data storage was setup on Coraid ATA over Ethernet devices providing a low cost RAID 1+0 solution
- Setup internal IT documentation wiki using Twiki and maintained up to date information
- Setup Request Tracker for managing IT requests
- Defined installation policies for Linux servers to reduce variations in systems
- Trained junior administrators on Linux and mail administration
- Implemented backup system for all critical data using rsync and pseudo-snapshots

**Systems Administrator, November 2002 – December 2004**  
**Z-Kat, Inc., Hollywood, FL**  
**<http://www.z-kat.com>**

- Performed Linux system administration in a development environment for image-guided surgical software and hardware
  - Standardized secure Red Hat Linux 8.0 deployments using automated kickstart installs
- Migrated services from outsourced hosting provider to internal Red Hat Linux servers:
  - Mail service running on CommuniGate Pro, preventing viruses and spam by writing filters utilizing open source tools (ClamAV and SpamAssassin)
  - WWW services running on Apache
  - DNS service on Bind v9 with separate internal and external views
- Windows file sharing services and NT domain controlling via Samba on Linux
- Deployed CVS source code repositories and secure remote access via SSH and Cisco PIX VPN
- Setup intranet website including bug tracking system (Bugzilla and Request Tracker) integrated with CVS, hardware inventory database, and collaboration system (wiki) using open source tools. Setup weblogging system to improve developer communication.
- Developed integration tools for mixing Windows and Linux clients, including reverse engineering Outlook meeting requests and converting them to open standard formats readable by Linux mail clients.
- Provided documentation on system and network administration updated and accessible via the intranet.
- Setup backup system, network attached storage devices, and on-site server room with proper ventilation and power requirements
- Maintained Cisco routers, firewalls, and network switches for company offices
- Windows XP/2000 desktop and laptop administration
- Followed stringent FDA requirements for quality assurance and regulatory affairs

### **Senior System Administrator, February 2000 - August 2002**

**IFX Corporation, Miami Lakes, FL**

<http://www.ifxcorp.com>

- RADIUS (OSC Radiator) design, implementation, and maintenance in a production environment providing authentication to over 1 million dialup users in South America. Developed clustered authentication system designed in PERL to replace pre-existing design.
- Administration of 100+ Redhat Linux, Solaris, AIX, and FreeBSD servers. System types include Sun E420s, Integrix Sun clones, IBM H80s and S80s, RS/6000, Cobalts, and other Intel-based systems.
- Intrusion Detection monitoring with Snort/ACID and automated patch updates to all servers. Setup centralized syslog infrastructure and processing of data with tools internally developed to find suspect behavior.
- Routinely perform vulnerability assessment of systems, and provided incident handling and response for attacks on our systems.
- Programmed many tools in C and PERL for system administration, automation, and security purposes.
- Firewall administration with IPFilter (FreeBSD/Solaris) and iptables/ipchains (Linux).
- Implemented automated installations with Kickstart/Jumpstart. Always installed servers with the assumption that they will be unprotected on the network and therefore must be very secure. Wrote policies and procedures for securely deploying Linux, Solaris, and AIX in hostile, non-firewalled environments. Example Red Hat Linux 7.3 Installation policy available at:

[http://www.viraj.org/documents/documents/linux\\_sec\\_7.3/](http://www.viraj.org/documents/documents/linux_sec_7.3/)

- MySQL and Oracle database administration for many core services such as RADIUS authentication and WWW.
- Solaris 2.7 CommuniGate Pro clustered mail server administration for over 1 million users regionwide. Facilitated migration methods from outsourced mail hosting providers. Developed statistical spam analysis tools (CG spam\_filter.pl) to stop spam from locally hosted domains immediately before damage is done.
- Setup high volume outgoing mail subsystem using open source mail systems such as Postfix.
- Setup, maintenance, and operation of company-wide services such as DNS (BIND v8), mail (sendmail, UW-IMAPD, qpopper), WWW (Apache/SSL), Samba, and DHCP (ISC).
- Administration of Network Appliance F760 & F840 clustered NASes, EMC Symmetrix, and other storage subsystems.
- Setup 24x7 NOC monitoring and trouble ticket systems using open source tools such as Netsaint, Bigbrother, Request Tracker, as well as commercial tools such as Netcool and Footprints. Developed internal monitoring systems deployed throughout South America.
- During this position also maintained open source packages that were developed on the job, responding to user suggestions, and integrating improvements in the software.

### **Systems Programmer, February 1999 - February 2000**

**Florida Atlantic University, Boca Raton, FL**

**Computer Science and Engineering Department**

<http://www.cse.fau.edu>

- Oversee and maintain the continual operation of 10+ Solaris servers, 30+ Solaris workstations, and 90+ Windows NT based PC workstations.
- Implemented host-based and network-based security monitoring tools on UNIX servers and workstations.
- Integrated UNIX environment with Windows NT by using Samba domain controller support when this support was in early development stages. This provided robust and simple administration of NT clients and users, and provided a means to find bugs in the Samba system that were communicated back to the developers of Samba.

### **System Administrator, August 1997 - February 1999**

**Florida Atlantic University, Boca Raton, FL**

**Computer Science and Engineering Department**

<http://www.cse.fau.edu>

- Administration of Solaris and Windows NT servers and workstations.
- System-level administration of Oracle database systems.
- Programmed CGI (PERL/PHP) and WWW interface to MySQL database allowing faculty/staff to lookup and modify student information for Computer Science Department.

## **Consulting Experience**

**UNIX System Administration, August 2002 – November 2002**  
**IFX Corporation, Miami Lakes, FL**  
<http://www.ifxcorp.com>

- Software development of complex dialup authentication modules in PERL.
- Provided maintenance and support for UNIX systems from previous employment.
- Wrote documentation of all systems and services for transfer of knowledge to other personnel.

**Practice Exam Author, September 2002**  
**Boson Software, Tampa, FL**  
<http://www.boson.com>

- Wrote 200 question practice exam for Red Hat Linux Certified Engineer preparation.

**UNIX System Administration, August 2002**  
**Florida Memorial College, Miami, FL**  
<http://www.fmc.edu>

- Setup classroom of 20 Ultra 5 SPARC workstations with Mandrake Linux for an introductory UNIX course.

**Continuing Education Instructor, March 1999**  
**Pratt & Whitney, West Palm Beach, FL**

- Taught PERL programming course to facility employees.

## **Operating System Experience**

- Red Hat Linux
- Debian Linux
- Solaris 2.x
- AIX 4.3 and 5L
- FreeBSD
- Mac OS X 10.3
- Windows XP/2000/NT

## **Programming Experience**

- C (especially UNIX system programming)
- Python
- PERL
- Shell (Bash)
- SQL

## **Development Projects**

- Love contributing to the open source community by developing free and useful software.
- Worked with many open source packages throughout whole career such as PHP, PERL, Python, MySQL, and PostgreSQL and free operating systems for development, testing, and implementation.
- Believe that the best suggestions for improvements come from actual users of software, and routinely respond to bug reports and feature suggestions reported by users.
- Always stay up to date on new packages by other developers who contribute to the open source community, and also submit bug reports and patches for packages I myself use.
- Developed many tools in C, PERL, and Python for security and system administration, including:
  - **incident.pl** Widely used security incident reporting tool based on best practices.
  - **remote update.pl** Automated remote administration via SSH tool for UNIX systems.
  - **CG spam\_filter.pl** Spam filter for CommuniGate Pro that performs statistical analysis of mail volume/recipients to determine spamming and prevent it immediately.
  - **YTNEF** filters for different mail servers to provide extraction of TNEF (winmail.dat) encoded attachments
  - **xmftp** X/Motif FTP Client written in C designed as a User Interface graduate course project.

- Information and source code available at:

<http://www.viraj.org/>

## **Certifications**

- Red Hat Linux Certified Engineer - RHCE #: 807302847805442

## **Education**

Florida Atlantic University, Boca Raton, FL  
Bachelor of Science in Computer Science (GPA 3.7/4.0)  
Graduation date: 12/1998

## **References**

Name: Mahesh Neelakanta  
Employer: Comerxia, Inc.  
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Name: Randy Wolf  
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