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## Summary

I have done many things over many years, but at the core, I am a Linux/Unix specialist, a tool-smith, someone with strong affinity towards SMTP issues, Configuration Management issues, someone who understands the meaning of the phrase “industrial quality code”, and after that, an accomplished generalist. I believe in proper process and concomitant documentation. If you don’t write it down, then it never happened.

I write the best shell scripts I have seen out there. I don’t know why, but scripting is not viewed by most people in as serious a manner as is required.

In addition, I have done a lot of compiler work which has given me valuable perspectives over the years. I worked on the FREIBURGHAUS suite of compilers at Data General during *Soul of a New Machine*, and overall have participated in a a number of language component activities. This background in language components has given me perspectives in problem solving that have resulted in architecturally excellent solutions to complex problems.

Besides shell scripting, I am more than proficient in C, Python, perl, and whatever else is needed.

After all my years of experience, I have found that there are common mistakes that people make. I know about these mistakes, how to fix them, and how to prevent them from happening in the first place.

## Education

2008 Graduate level course in cryptography, Worcester Polytechnic Institute  
2000 Admin Training in ClearCase from Rational University  
M.S. C.S. 1988 Boston University  
B.S./math 1979, Northeastern University

## Experience

FRAMINGHAM NEIGHBORS COMMUNITY MAILING LISTS, FRAMINGHAM, MA 1998 - PRESENT

*Founder*

I have been running my own home server since '86, first starting out with SCO Opendesktop, then using Red Hat and after that, moving on to Fedora. In addition, this machine is used as the mailing list manager for the local municipal lists (Majordomo2) I run here in the sleepy town of Framingham, MA. These lists have had a profound impact on how business is done in the town.

Despite the relatively small volume of around 1 million messages per month, this server’s configuration is worthy of a substantial presentation, but the basics are that it runs SENDMAIL, APACHE, MOIN, OPENSSSH, CLAMAV, plus all the components that follow after that. The *after that* part causes things to get more interesting.

- Spam in controlled is a very effective manner using Spamassassin (**SA**), running under a milter called SPAMASS-MILTER. Instead of sorting the spam into a spam folder, the spam is actually rejected (500 series DSN) before reception completes. I never see it, and the spammer knows that he is rejected.
- **SA** runs a substantial number of tests. Some of those tests used to be run outside of **SA** inside SENDMAIL, but I found that I did better by incorporating those tests into **SA**, wherever possible. This resulted in **SA**’s ability to better update its BAYES and AUTOWHITELIST database,
- Of course, **SA** converted years ago to using MySQL.
- Included in the tests that were migrated to **SA** from SENDMAIL, are RBL checks (like SURBL, SPAMCOP, etc...) as well as ClamAV.
- ClamAV helped a lot, but there were things that did not get picked up. I discovered a highly active project called SCAMP which added an additional  $40+K$  *extra signatures* of spam that did not actually qualify as a commandeering class of virus.

- The lists I run here total about 2000 users over under a dozen lists. While most people are running Mailman, I am running a package called Majordomo2 (not to be confused with the old majordomo system of yore).

As part of running a responsible server with mailing lists, I take great care at registering with feedback loops whenever possible, always providing opt-out information, conforming to rfc2369, VERPing (i.e., “Variable envelope return path”) all AOL subscribers, reporting any misses that get through to spamcop, and generally conforming to the CAN-SPAM Act of 2003, even though I am not running a commercial operation. Nobody ever gets subscribed without explicitly providing permission.

- A few years, YAHOO changed their configuration to not allow more than 9 messages at a time per envelope. A short while ago, hotmail did the same thing, but with a different (lower) parameterization. The solution was add two new mailers to the SENDMAIL configuration which were each parameterized for the new limits. Then the SENDMAIL mailertable database was used to route mail for those destinations using the newly created mailers.

I have attended every of the Annual MIT Spam Conferences.

Recently, I have been mentoring a startup in their development of a new RBL based on CRM114.

I sign all my email using PGP signatures in a world where people are aware of the dangers of identity theft, but mostly ignore the value of signing. The topic of crypto in general intrigues me, not just from the mathematics and computer science perspective, but also from the sociological and historical side. Ask me how Raytheon Corporation has left themselves open to attack through misuse of PGP keys.

LOCKHEED MARTIN, SUNNYVALE, CA APRIL '09

(CLASSIFIED) A Lockheed project had architectural problems with their implementation of ClearCase, ClearQuest, and MultiSite. A new View Server was identified as a core problem. In addition, triggers and scripts were written, Login environments were properly defined. Storage was reclaimed. I designed their previously non-existent branching strategy. Corporate cultural issues played a large part in the presentation of their problems.

VIASAT, MARLBORO, MA DEC '05 – OCT '08

*Software Engineer*

(CLASSIFIED) ViaSat is a government contractor. The division I worked in is focused primarily on encryption devices.

- Worked on restructuring the build process for software at the Corporate level developed under Linux. This included source code repository structure management, perforce access issues, definition of re-useable library components, COTS repository management, as well as source repository shape definition issues.
- I created a common directory structure that contained globally defined tools. This directory structure was fully integrated into the Linux/Unix login environment.
- PCKL (the PC KeyLoader) is a tool for loading keys into crypto devices. PCKL is written in Python. It communicates with the crypto device over an HDLC RS485 serial port to an encryptor for the MIDS-JTRS program using the EKMS-308 standard under the PSIAM architecture. The communication from PCKL to the serial port is encapsulated through a server process which isolates knowledge of the port. This encapsulation also allowed for easy protocol debugging.
- PCKL was built on top of a message passing framework (VTT, the ViaSat Test Tool). In addition, VTT is used for rapid deployment of other tools for a wide variety of purposes.
- PCKL and associated tools were ported to work with other crypto devices.

GUARDIUM, WALTHAM, MA DEC '04 – NOV '05

*Software Engineer* working in Release Support and Software Packaging

- Guardium’s product was shipped to customers in native package formats for all known Unix/Linux platforms. I implemented package management for their product in RPM, .deb, pkg for Solaris, and pkg for AIX. Also performed build verification.

AXIOWAVE NETWORKS, MARLBORO, MA SEPT '03 – NOV '04

*Principal Technical Consultant* working in Release Support and Software Packaging

Axiowave was a company that created a terabit metro class core router.

- Implemented the software used for burning flash memory. Flash was used for the boot loader, monitor, and FPGAs.
- Implemented a tool for extracting all debug/log/trace data from the device for later analysis.
- Worked on various Clearcase tools, triggers, utilities, etc...
- Set up the system to be used to perform *gcov* analysis.
- Performed an analysis of all LynxOS system calls to determine if they were re-entrant or restartable as advertised.

TREBIA NETWORKS, ACTON, MA JULY '02 – MARCH '03

*Consultant*

- Designed and implemented the basic branching strategy under CVS.
- Implemented high quality hooks into CVS to do things like branch locking, subdirectory locking within a branch, tag logging, and various other commit-time checks including commit logging.
- Set up the nightly build process for their project.
- Tasked to solve various structural implementation problems in their code. e.g., varargs vs stdargs, external data initialization at compile-time, signal issues, etc...
- Responsible for all merges.
- Implemented release support mechanism which defined what files were and were not part of the released package.
- Subverted the compiler to trap classes of warning messages and to email them to their appropriate owners as part of an integrated warning processing strategy.
- Fixed proper dependency generation system wide. General Makefile work.
- Acted as the de facto Unix/Linux system guru.

CONCORD COMMUNICATIONS, MARLBORO, MA JANUARY '01 – JANUARY '02

*Consultant*

- Responsible for conversion of their network monitoring application from using Ingres to Oracle. This included their imake system, as well as the kitting and installation process.
- Converted their installation process to ksh88.
- Provided direction for ClearCase issues.