

Profile

An accomplished software engineer specializing in system architecture design and implementation. Extensive experience in the full life cycle of the software design process including requirements definition, prototyping, proof of concept, design, implementation, testing and maintenance.

Experience

Chief Technology Officer and System Architect, Research Triangle Software; Cary NC — 2004-2014

Functioned as the primary Redesigned and reimplemented large Software as a Service 1-to-1 email branding and marketing software which allowed the system to grow by an order of magnitude without any hardware changes.

- Created custom reporting and tracking system to determine effectiveness of messaging strategies.
- Redesigned existing architecture for high throughput and high availability
- Redesigned batch queuing system, reducing the average task wait time from 5 hours to less than a second
- Implemented automated regression testing and continuous integration system using buildbot and custom test framework for Visual Basic
- Moved system from Oracle to PostgreSQL to reduce licensing costs and improve performance
- Added public knowledge base to allow customers self service access to information and reduce customer support costs
- Developed personal encryption software supporting several modern encryption algorithms. The software is available as a stand alone product for Windows, and an cross platform library for use in other products for Windows, Mac OSX, Linux and FreeBSD
- Maintained internal IT infrastructure comprising a mix of Windows, Linux, and FreeBSD servers
- Managed farm of approximately 50 servers used to provide automated testing of new code changes automatically based the revision control system used by developers
- Implemented SVN, ReviewBoard, Buildbot and a custom VMWare infrastructure to provide developers with a consistent and automated build environment and guaranteed repeatability of builds

Desktop support technician, South East Health Unit; Waycross GA — 2002

Worked as part of 4 person team handling basic desktop support and maintenance for the largest public health district in Georgia.

- Deployed custom calendaring software for managing in house scheduling of employee tasks, meetings, events and other job related activities. This service replaced GroupWise calendar installation which did not meet our functional requirements
- Maintained Novell NetWare 5 file servers, handling data storage and GroupWise services
- Functioned as a dispatcher, deploying technicians within our service area

Senior Network Administrator, Research Triangle Consultants INC; Cary, NC — 1997-2001

Designed and built out a fully redundant data center for EDI VAN service including fully redundant network services with no single point of failure.

- Managed network engineering team for supporting systems engineers
- Implemented fully dynamic networking mesh using VLANs which could be reconfigured on the fly via custom web interface allowing engineers to move within virtual zones, with changes recorded into a revision control system for auditing
- Worked with management staff to Established requirements and budget for building a new data center, comprising of redundant network system, multiple OC3 connections, and backup power.
- Coordinated with systems engineering teams to physically move data center to new facility with less than 5 minutes of downtime total between all physically relocated hosts
- Designed and refined test patterns to ensure backup systems and redundancy functioned in fail over situations

Open Source

- Created crash reporter library for Windows (Open Source: <http://code.google.com/p/flyswatter/>)
 - Simplified the process of adding support to any application by simply linking to the library and adding one line

- o of code to startup
 - o Library provides an orthogonal interface across supported platforms, easing support for cross platform applications
 - o Web interface only requires the Breakpad symbol processor, PHP and a writable directory. No database or other libraries are required. Intended for small installations.
- Creator of DGS, an image repurposing server using SVGs as templates that can combine SVG images with external data. Written in java it provides a library for other applications, a command line application as well graphical viewer. (Open source: <http://code.google.com/p/dgs/>)
- Created C# NMEA sentence parser for reading GPS output. Provides an object oriented API for applications. The library included provisions for reading data from a serial port or gpsd for networked GPSes. (Open source: <http://code.google.com/p/nmeaparser/>)
- Created a log viewer and moving map for Lowrance networked sonar units. Viewer can process logs offline or work with live data via the Lowrance ethernet network. Multiple logs can be combined allowing the creation of high detail bottom maps. Software is capable of analyzing log data and determine fishing 'hot spots' where there are consistently large concentrations of fish as well as detecting submerged man made structures such as building foundations and roadways.
- Created a digital dashboard for cars and boats.
 - o Written in C# and capable of using both the full .NET framework as well as the Compact from work for embedding in dash/console computer systems
 - o Customizable user interface with support for custom themes and dash layout using XML and CSS
 - o Uses built-in vehicle diagnostics port to gather data from cars and trucks
 - o Input data on boats is gathered using custom Arduino based sensor modules due to the lack of standardized diagnostics port

SKILLS

1. Languages (in order of proficiency)
 - a. C/C++
 - b. C#
 - c. Objective-C
 - d. Java
 - e. Visual Basic (Both pre and post .NET runtime)
 - f. Ruby, Perl, Python and shell
 - g. A bit of AVR Assembly
2. Operating Systems
 - a. Windows
 - b. Mac OS X
 - c. FreeBSD
 - d. Linux
 - e. Solaris