

Wm Parker MacKenzie

Principal Firmware Engineer

Passionate, dedicated, and versatile software engineer with experience in architecting, designing, and developing embedded system software. Capable of combining strong communication and interpersonal skills with a depth of technical knowledge when working with a team, leading a project, and communicating with customers. An extensive background working with cross functional hardware and software development teams.

Experience

Principal Firmware Engineer

Senet, Portsmouth NH

2015 –
Present

- Designed, developed, and maintained a carrier grade multithreaded embedded Linux gateway application suite for managing and forwarding LoRa WAN packets between end devices and a cloud hosted server.
- Developed a cross development build system that allows the core applications to be ported to nearly a dozen different gateway platforms.
- Created and maintained the source control repositories which included a release management workflow based on Gitflow.
- Created close partnerships with gateway platform vendors; driving significant stability into the foundational system components.

Principal Software Systems Engineer

Extreme Networks (Acquisition of Enterasys), Salem NH

2013 –
2015

- Successfully lead the design and planning of a unified modular chassis combining key differentiating components from both companies.
- Researched and prototyped a multicore concurrent database soft switch-route-switch forwarding engine using the Freescale T-Series processor capable of flow setup rates of greater than one million packets per second. Researched porting the forwarding engine to the Cavium Octeon and EZ-Chip NPS series processor.
- Responsible for maintaining, optimizing, and adding features to the S and K series software forwarding path.

Senior/Principal Software Systems Engineer

Enterasys Networks, Andover MA

2007 –
2013

- Designed and developed a distributed software forwarding path for the S and K series modular switch-router system. Successfully used object-oriented design principles to balance performance, increase development velocity, and improve maintainability. The product was class leading and continues to ship today.
- Working closely with the hardware and FPGA/ASIC teams, designed and developed the modularity of the K-Series, this allowed for components of the switch fabric to be removed and inserted at runtime with no negative impact to the other fabric modules.

Senior Software Systems Engineer

Zhone Technologies, Portsmouth NH

2006 –
2007

- Transferred development of a DSL to ethernet switch to the Portsmouth office. Completed development, shipping on time and on budget.

Software Systems Engineer

Cabletron/Enterasys Networks, Rochester NH

2004 –
2006

Education

Bachelor of Science, Electrical Engineering

University of Southern Maine, Portland ME

Personal Info

Address

PO Box 991
Kennebunk, ME 04043

Phone

207-229-6548

Web Site

wparkermackenzie.github.io

E-Mail

wparkermackenzie@outlook.com

LinkedIn

www.linkedin.com/in/wmackenzie

Development Languages

| | |
|----------|--------------------|
| C | ●●●●● Excellent |
| C++ | ●●●●● Excellent |
| Assembly | ●●●●○ Very Good |
| Bash | ●●●●○ Very Good |
| Python | ●●●○● Good |
| Perl | ●●●○● Good |

Skills

Algorithm Design
Bare Metal Design
Concurrent Databases
Critical Path Optimization
Cross Platform Development
CVS
Distributed Systems
GDB
Git
Gitflow
IoT Design
Linux Real Time Threading
Local Area Networking Standards
Logic Analyzers
LoRa WAN
Multi-core design
Object Oriented Design
On-chip Debuggers
OpenWRT
Oscilloscopes
Poco C++ Libraries
RESTful Interfaces
Spectrum Analyzers
SSL/TLS
UML
VxWorks Development
Web Sockets
Yocto