

# 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.
- Developed IoT device applications.
- 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

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### Web Site

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### LinkedIn

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## Development Languages

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

## Skills

Algorithm Design  
ARM/Mbed/ST  
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