Job Title: Senior Embedded Software Engineer   **Prepared By:**
Department: Engineering   **Approved By:**
Reports To: Director, Software Development   **Approved Date:**
Location: Long Beach, California   **FLSA:** Exempt

About Mercury Security Products:

Mercury Security, located in Long Beach, California, is recognized as the global leader in the design, manufacture and supply of access control security technology. Mercury Security is part of HID Global, the provider of trusted identities to the world's people, places and things.

We offer a competitive and comprehensive compensation package that includes medical, dental, vision, life insurance, 401k, flex spending and FTO to qualifying employees. Mercury is a casual working environment.

Summary

In this position you plan, design, code, develop, test and document embedded software systems in C and C++ for software enhancements and new products for access control systems. You apply modern, best practice development techniques and product knowledge toward Research & Development activities. You provide analysis and investigation and resolution of software engineering tasks; participate in the definition of design specifications/parameters; plan, document and carry out software development and testing. You support software modules during Test and Evaluation. You collaborate with other internal organizations such as manufacturing, customer support.

Duties and Responsibilities include the following. Other duties may be assigned.
- Create and maintain embedded Linux distributions and land them on custom hardware
- Create power-loss tolerance, fail-safe and secure field update mechanisms, real-time performance, secure boot, connectivity and other solutions for appliance and open platform products
- Develop port and debug Linux device drivers, kernels and bootloaders
- Own projects from block-diagram concepts through the entire product life cycle
- Collaborate with hardware engineers on selection and high-level hardware architecture for new products
- Collaborate with QA and dev ops engineers to enhance systems for software build, test and deployment
- Provide technical direction and leadership in a non-supervisory capacity for complex engineering projects
- Provide a high level of mentoring to other embedded software engineers
- Identify areas of improvement in our products, development and manufacturing processes, make recommendations, and help refine our Secure Product Development Lifecycle.
- Design and programming of security solutions and features.
- Development of security requirements and design validation methodologies.

Qualifications

To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

Education and/or Experience
- Bachelor's or Master's Degree in Computer Science, Computer Engineering, or Electrical Engineering.
- At least 7 years of experience developing embedded software.
- At least 3 years of experience building custom embedded Linux distributions including experience writing and debugging kernel drivers, and working with or building board support.
- Knowledge of Assembly language.
- Knowledge of Ethernet protocol
- Have strong systems and networking knowledge (systems architecture, memory hierarchy, storage subsystems, LANs, routing)
- Have expert knowledge of embedded Linux configuration, development, board support packages, bootloaders, kernel, drivers and application development in C/C++
- Experience developing/working with with gcc/GNU tool chains
- Strong understanding of embedded systems, software, and hardware-software interface.
- Sound knowledge of information security concepts and cryptography fundamentals
- Experience with C/C++ and scripting languages (Python/bash is a plus)
- Technical expertise in one or more of the following: o Secure coding practices, code analysis and reviews, and vulnerability triage.o Operating system (Linux) internals and hardening techniques including kernel mitigations, access control, and security configurations.o System-level (kernel/bootloader) software development and incorporating hardware-based security techniques (Hardware Security modules, TPM, Secure Boot, TXT, TrustZone, etc) into a robust hardware/software system design.o Security testing, validation and verification practices, techniques and toolso Product security assessments, threat modeling, and risk analysis
- Strong analytical skills and attention to detail. Good communication skills.
- Ability to multi-task, prioritize and work in an extremely fast-paced, collaborative environment.
- Self-motivated; ability to work under general supervision; receptive and supportive of team efforts

Language Skills
- Ability to effectively communicate in the English language verbally and in writing.
- Ability to read and interpret technical journals, specifications, international technical standards, etc.

Computer Skills
- Proficient in MS Office applications, such as Word, Excel, PowerPoint, etc.
- Familiar with operating systems, such as Windows, etc.

Customer Expectations
Highlight knowledge, skills, abilities and traits necessary in this role to satisfy our *customer's* expectations

Work Environment

- The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.
- Employee works primarily in an office environment, with in a well ventilated area, and is exposed to moderate noise levels.

Work Requirements
- Compliance to all relevant HID Global policies and procedures related to Quality, Security, Safety, Business Continuity, and Environmental systems.
- Travel and fieldwork including international travel, therefore employee must possess or can acquire a valid passport.
- Must be legally eligible to work in the United States.