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Trustworthy **UNHACKABLE**
Computing Base (TCB)

Secure UNHACKABLE Data Vault
(SDV)

Cyber-Retrofit Services for
Connected Enterprise IoT Devices

Overview

FullSecurity is an advanced engineering company with expertise, experience and unique technology that will improve the ability to build TRUSTWORTHY and resilient systems. We have proven success demonstrating the capability to **STOP HACKING** and prevent malicious takeover of sensitive systems. Effective security and privacy protections are now an imperative with the ubiquity of the Connected Enterprise Internet of Things (IoT) applications. These devices must have FullSecurity protection now, because of the wide and diverse and vulnerable environments in which they must operate. Intrusion detection and protection are a must in connected distributed systems. We have the required expertise in systems, communications and mobile application development for the modern era. FullSecurity offers our extensive expertise and fluency in embedded systems and embedded virtualization. We offer program management with integration support, driver, and platform porting via contract software development. Whether it is a high level mobile requirement, Android or iOS, C applications, Linux, Real-time OS, Protocols or Analytics, we have the expertise. We can offer design services review or management consulting for a target application of your choice. Our special focus has been on efficient, lightweight systems with support for a wide range of operating systems and application environments, including RTOS, multiple Linux distributions, Android, Apple iOS, and Windows Mobile. Whatever the requirements, a competent and secure NIST-compliant solution can be provided. www.fullsecurity.com

Core Competencies

Trustworthy UNHACKABLE Computing Base (TCB)

- TCB clearly identifies, isolates, and protects critical system data
- TCB is 100% formally verified and bug-free
- TCB is anchored by a guaranteed secure embedded microkernel
- TCB verified by DARPA for building trustworthy systems
- TCB is the **ONLY** fully-verified, high-performance microkernel
- TCB is approximately 50,000 lines of C and is 100% immutable
- TCB runs today on a variety of hardware platforms: ARM 8A & 64, RISC-V, x86 PC99 32 & 64, and other ports can be made available
- TCB is end-to-end formally-verified correct and bug-free

Secure UNHACKABLE Data Vault (SDV)

- Existing Enterprise Systems **CAN NEVER be protected** adequately
- SDV is: Simple, Safe, Secure, Isolated and IMMUTABLE
- SDV is **universally adaptable** to existing systems
- SDV is **NOT** implemented within existing, popular monolithic OS's
- SDV is "guaranteed" **UNHACKABLE** by verification and isolation
- SDV requires multifactor and biometric authentication
- SDV requires no human access control and no human intervention
- SDV will safely and reliably reside and communicate in secure or non-secure environments

Cyber-Retrofit Services for Enterprise Connected IoT Devices

- Real-time embedded systems in mission and cyber-critical roles
- Make critical Enterprise Connected IoT systems FAIL-SAFE
- One target is life-critical systems (medical); FDA approves
- We cover real-time control instrumentation
- Always-On computing control
- Harden Critical communications infrastructure
- Safe Utility infrastructure systems and monitoring

Place of Performance

Portland, Oregon, Sydney, Australia
Dallas, Texas, Edinburgh, UK

Past Performance of FullSecurity

- Formal Verification of the seL4 microkernel
- High-assurance real-time OS (eChronos) for DARPA
- DARPA rapid-prototyping system for hardware modeling
- Developed first full library of digital models for logic simulation
- DARPA HACMS demonstrated world's first unhackable system**
- Protocol consulting and development, NWS, NSA DOD, ATT
- Very complex iOS and Android mobile app development
- Complex, comprehensive analytics system for mobile apps

Differentiators

- Every competitor offers only **add-on** security
- No competitor can provide assurance that you will not be hacked
- DARPA HACMS technology guarantees you will not be hacked
- Most current authorization models have failed
- Access control (e.g. POLA) does not work (Lampson, 2015 SOSP)**
- Perimeter fencing WORKS until....it doesn't

Primary NAICS Codes

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