## Adding the 'E'

to FOSS Cryptographic Data Storage

# ENTERPRISE MANAGEMENT! WHAT E?

Definitions



MANDATED BY POLICY AVOIDING OBSOLESCENCE WHY DO WE CARE? NO EXISTING [GOOD] TOOLS WE CAN FIX THAT

**Motivations** 



Criteria: a "Good" Tool







- Enforce encryption on certain mountpoints?
  - If so, how do we back data up before turning on encryption?
- Require certain ciphers or password complexity?
- Do we even want to use a password at all?
- Do we encrypt swap space? How about the bootloader and kernel?
- Do we require TCG compliance?
- Are users local admins of their machines?
  - If so, how easily could they circumvent our configuration (accidentally or deliberately)?
- Automatic shutdown / reboot to prevent attacks?

Implementation Planning







# WHAT TO REPORT

- Encrypted mountpoints
- Last known status of encryption
- System inventory (TCG info?)
- List of users
- Indications of tampering

Implementation Planning







Erlang (/ 3rlæŋ/ ER-lang) is a general-purpose concurrent, garbagecollected programming language and runtime system. The sequential subset of Erlang is a functional language, with eager evaluation, single assignment, and dynamic typing. It was designed by Ericsson to support distributed, fault-tolerant, soft-real-time, non-stop applications. It supports hot swapping, so that code can be changed without stopping a system.

**Common Question** 

## CENTRALIZED C / S / R

## ✓ FLEXIBLE DEPLOYMENT

- ✓ STAYING POWER
- ✓ COMMUNITY ACCEPTANCE

#### • OPTION 1: Ignore the issue

- Cost VERY LOW: just sit back
- Benefit LOW: very easy to do watch your team's skill levels fall

### • OPTION 2: Implement with an existing tool

- Cost LOW: nominal labor hours, maybe a new PTE
- Benefit MODERATE: augment skills + in compliance

#### • OPTION 3: Create a new tool

- Cost MODERATE: Approx. 200 300 labor hours, maybe a new FTE
- Benefit HIGH: Custom solution tailored to your needs

EMiLE: a GOOD Tool

Decision Time

- Improved Server Authentication
- Implement Client Configuration
- Support More OSes
- More Themes for Web Interface
- Streamline Build and Distribution Process
- Git repo at:
  - https://bitbucket.org/triplephoenix/emile

Conclusion

The Power Is Yours!

EMiLE: Future Tasks