Cybersecurity Research Acceleration Workshop and Showcase

October 11, 2017 | Indianapolis, IN
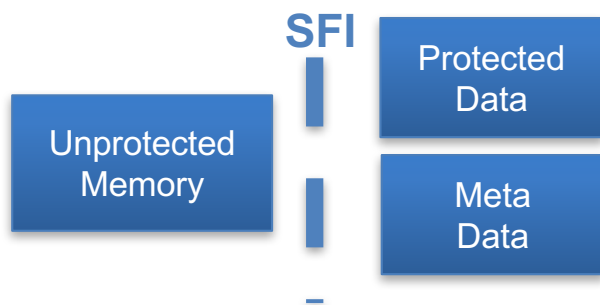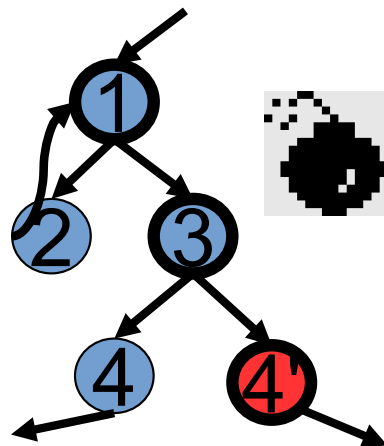
Quad Chart for: Guarded Control-Flow and Data Privacy for Sensitive Data

Challenge:

Applications are written in low level languages such as C/C++ and prone to vulnerabilities. Complete mitigations result in prohibitive performance overhead.

Solution:

- Develop fine-grained policies to guard control flow at all times
- Develop selective policy to protect sensitive data only
- Compiler-based analysis allows reasoning about types
- Compartmentalize, apply different data policies depending on sensitivity

Value proposition:

- Increase public outreach and interaction with community
- Educate developers about security policies, develop defaults
- Build full products, not just research prototypes

What we need to TTP

- Transitioning from research prototype to usable mitigation
- Code review and upstream into framework (e.g., LLVM)

SFI — Unprotected Memory — Protected Data — Meta Data

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