SCRUB: Secure Computing Research for Users’ Benefit

The Intel Science and Technology Center for Secure Computing

David Wagner

http://scrub.cs.berkeley.edu/
What is SCRUB?

- SCRUB is a new center focusing on security for user’s benefit

- Model: industry funding + collaboration
  - 4 Intel researchers in residence at Berkeley
  - $2.5M/year in funding from Intel
  - Open IP policy
  - Associate Director: Anthony Joseph

- Schools: Berkeley, CMU, Drexel, Duke, UIUC
Sponsors

Founding sponsor:

Other support:

(your company here?)
SCRUB Research Agenda

- Thin intermediation layer
- Data-centric security
- Mobile security
- Security analytics

→ SCRUB
Secure Thin Intermediation Layer

- A thin, low-level intermediation layer can enable secure computation
  - e.g., online banking – establish an island of security amidst the sea of malware

- What primitives should the platform (hardware, VMM, OS) export, to enable secure computing?

- Benefit to users: secure computing on insecure desktops
Data-centric security

- Data increasingly resides not only on end-user devices, but also on servers, cloud, ...
- Can we provide consistent protection for user data as it flows through a complex distributed system, no matter where it is stored?

- Benefit to users: visibility and control over their data
Mobile security

- How do we ensure third-party apps are safe?

- New paradigm for secure computing: protect against apps, not against users

- Benefit to users: Secure smartphones, tablets

How do we build effective app permission systems?

Can we make app stores more robust and secure?
How can we accurately measure security?

Current approaches lead us in the dark
  - Are our efforts to secure systems making progress?

Goal: robust security metrics and analytics

Benefit to users: Ability to prioritize, manage, and measure security
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Agenda

10:10-11:55  Mobile security
11:55- 1:15  lunch

1:15- 2:00  Secure thin intermediation layer
2:00- 2:30  break

2:30- 3:00  Data-centric security
3:00- 4:00  Informal breakouts with industry leaders

4:00- 5:20  Security analytics
5:20- 6:00  feedback

6:30  dinner