
Detecting and Defending
Against State-Actor Surveillance
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Introduction

CONTENTS

Who is involved

- Those that spy.
- Those that get spied on.

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Why do Spies Spy?

- Information has value.
  - Moral values:
    - Protect people from harm
    - Progress society
  - Immoral values:
    - Blackmail
    - Profiteering

Full Disclosure

I loath tin foil hats and conspiracy theories.

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Story time!

- 2010, someone working on their car finds a GPS unit
- Law enforcement and FBI show up shortly after it is removed, asking for their device back.
- www.wired.com/2010/10/fbi-tracking-device/

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- **This is the only major story that discusses a tracking device being found.**

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- www.wired.com/2010/10/fbi-tracking-device/

- **This is the only major story that discusses a tracking device being found.**
- **No agency admits involvement**

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What is the “Surveillance Catalog”?

Surveillance Catalog leaks

- Der Spiegel and 30c3 in December 2013
- Tons of details regarding how spying agencies are 'bugging' computers, cell phones and more.
- They do not credit a source.

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Introducing Surveillance Sam!

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Hardware Bugs

Hardware Bugs

Retro Reflectors

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Hardware Bugs

RF Bug Detection

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Hardware Bugs

RF Bug Detection

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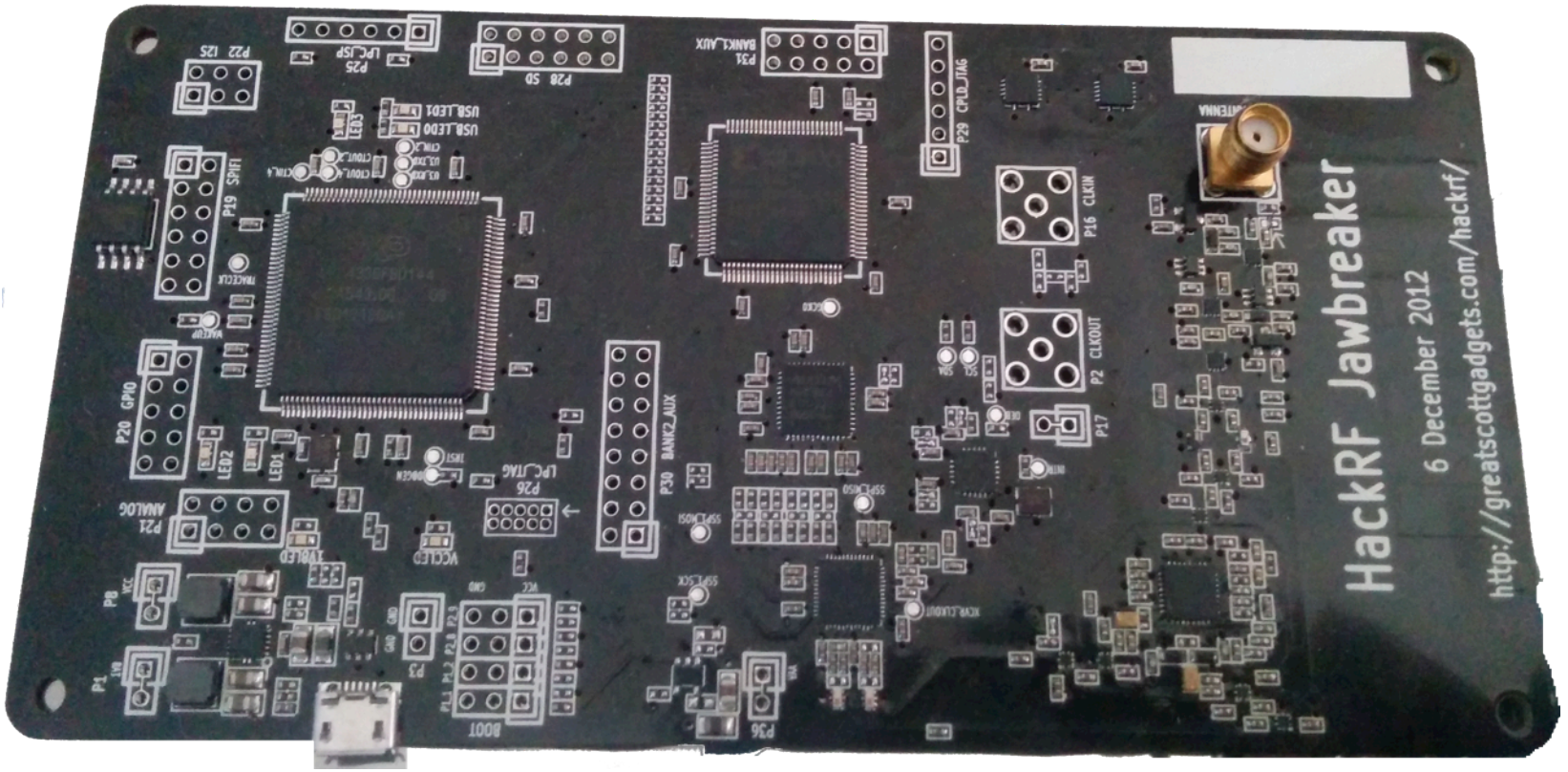
Hardware Bugs

RF Bug Detection

Software Defined Radio



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Hardware Bugs

Data Exfiltration

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Hardware Bugs

Persistant Compromise

A device by any of these names

- GODSURGE, JETPLOW
- HEADWATER, HALLUXWATER
- SCHOOLMONTANA, SIERRAMONTANA, STUCCOMONTANA
- FEEDTROUGH, GOURMETTROUGH, SOUFFLETROUGH

Just means hardware for persistent compromise

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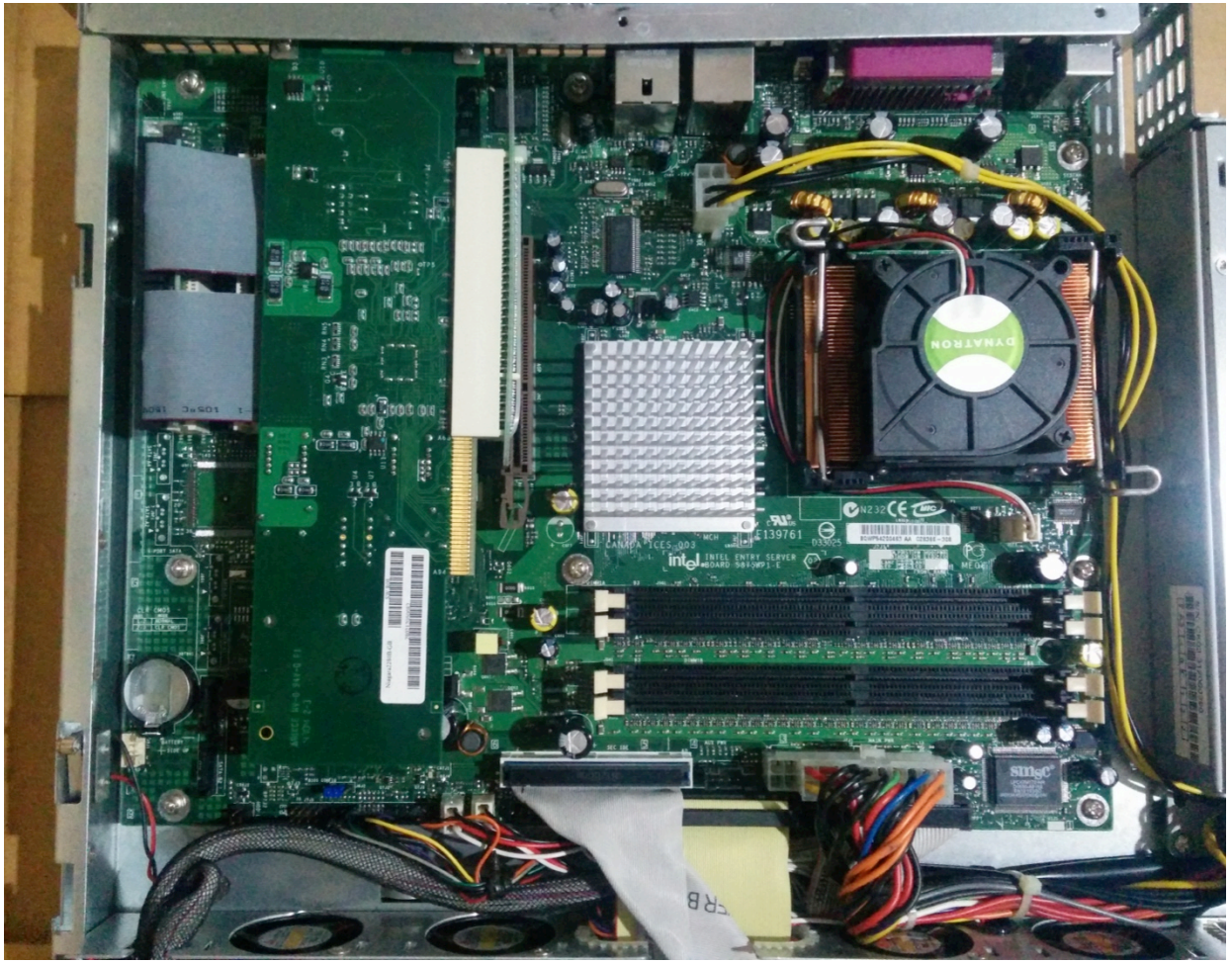
Detecting Persistent Compromise Devices

By looking inside



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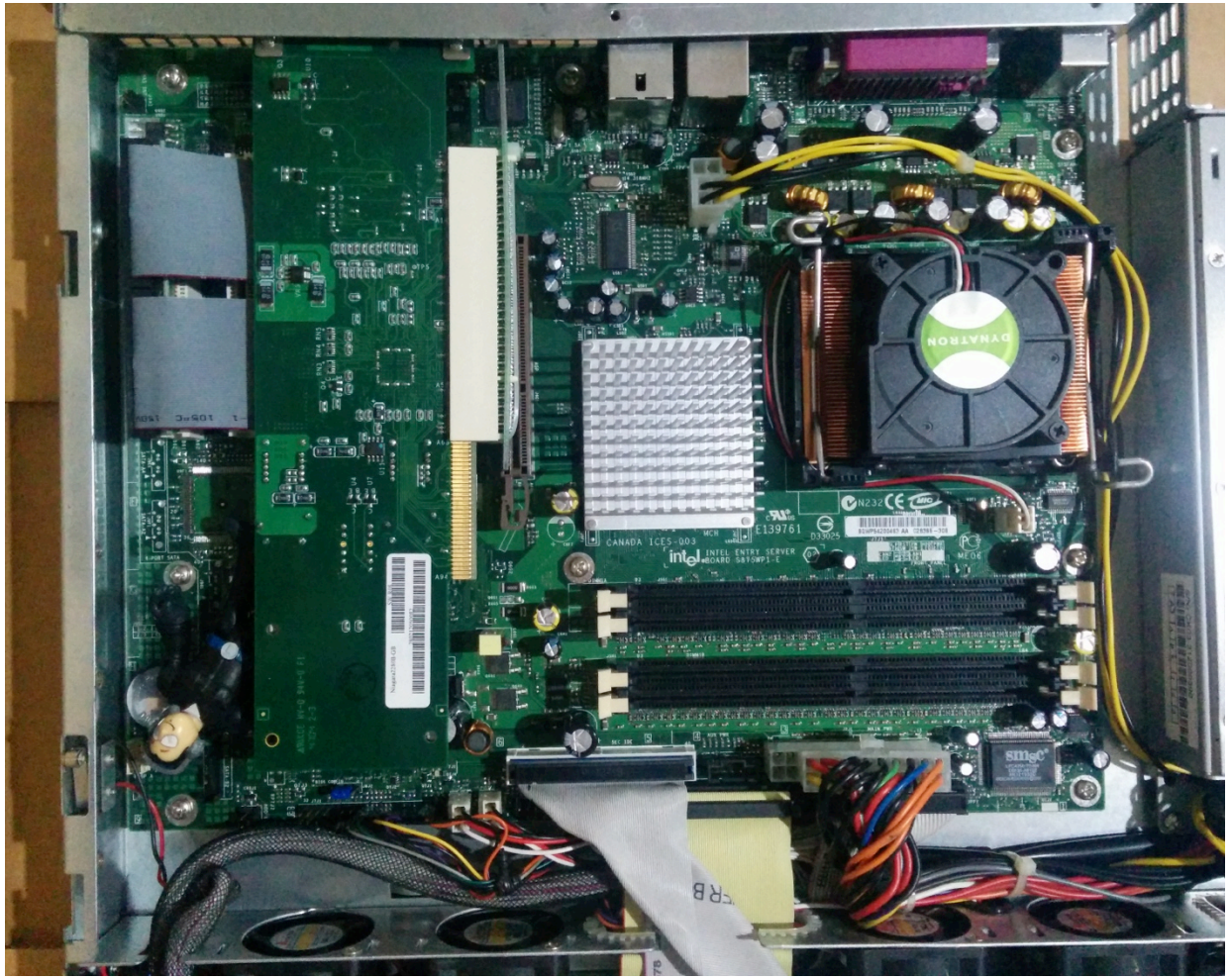
Detecting Persistent Compromise Devices

By looking inside



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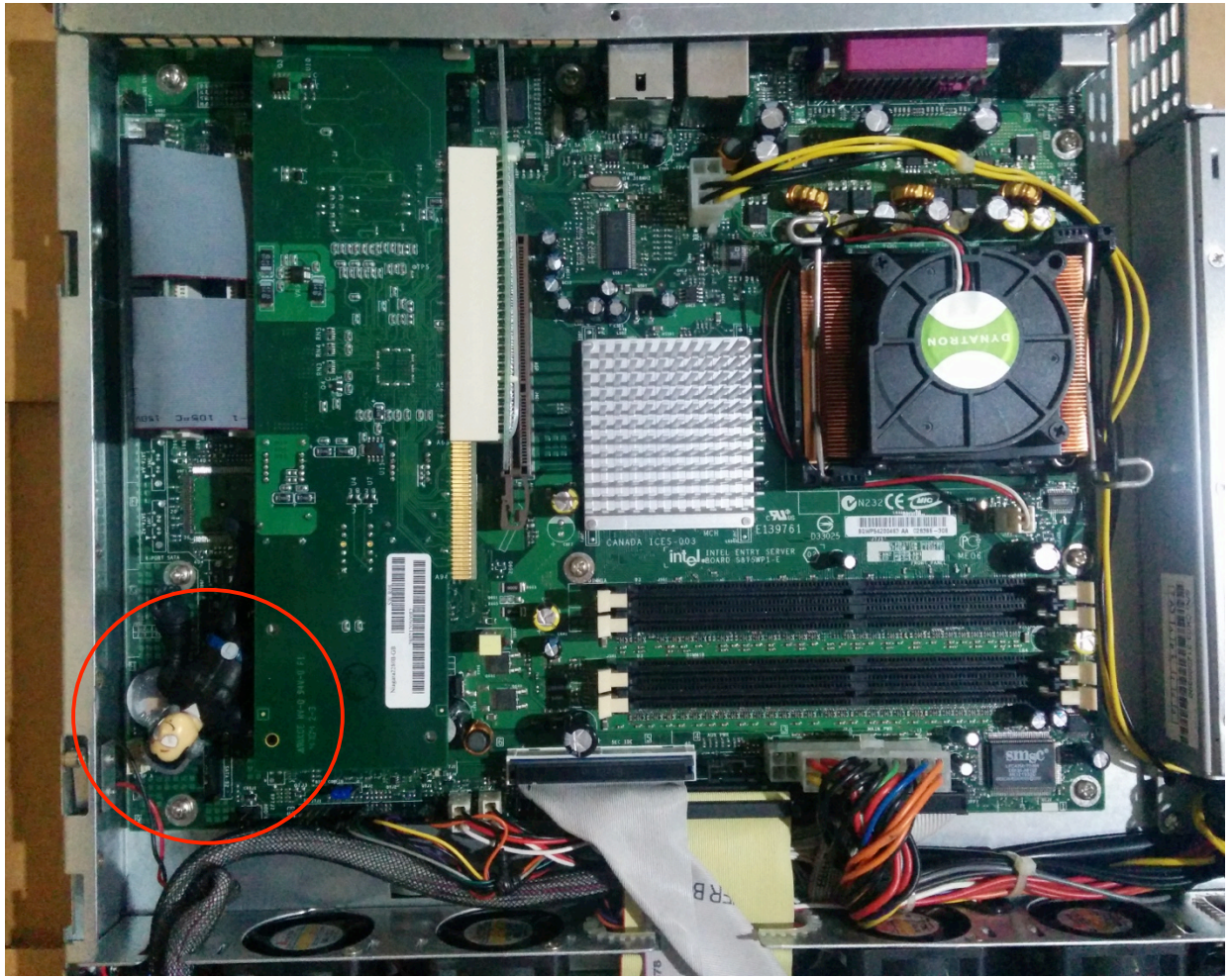
By looking inside



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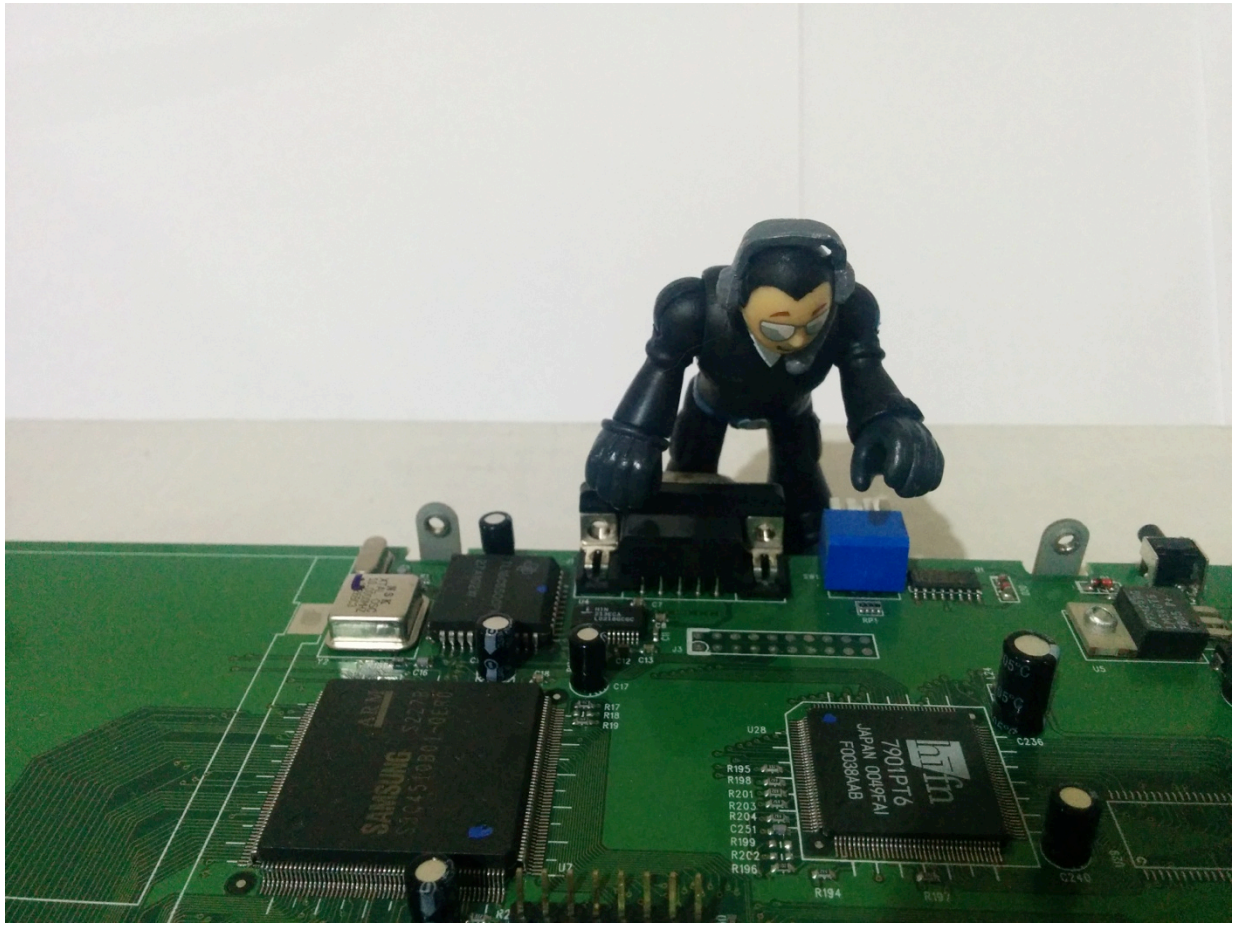
Detecting Persistent Compromise Devices

Connected to JTAG, XDP, ITP, etc…



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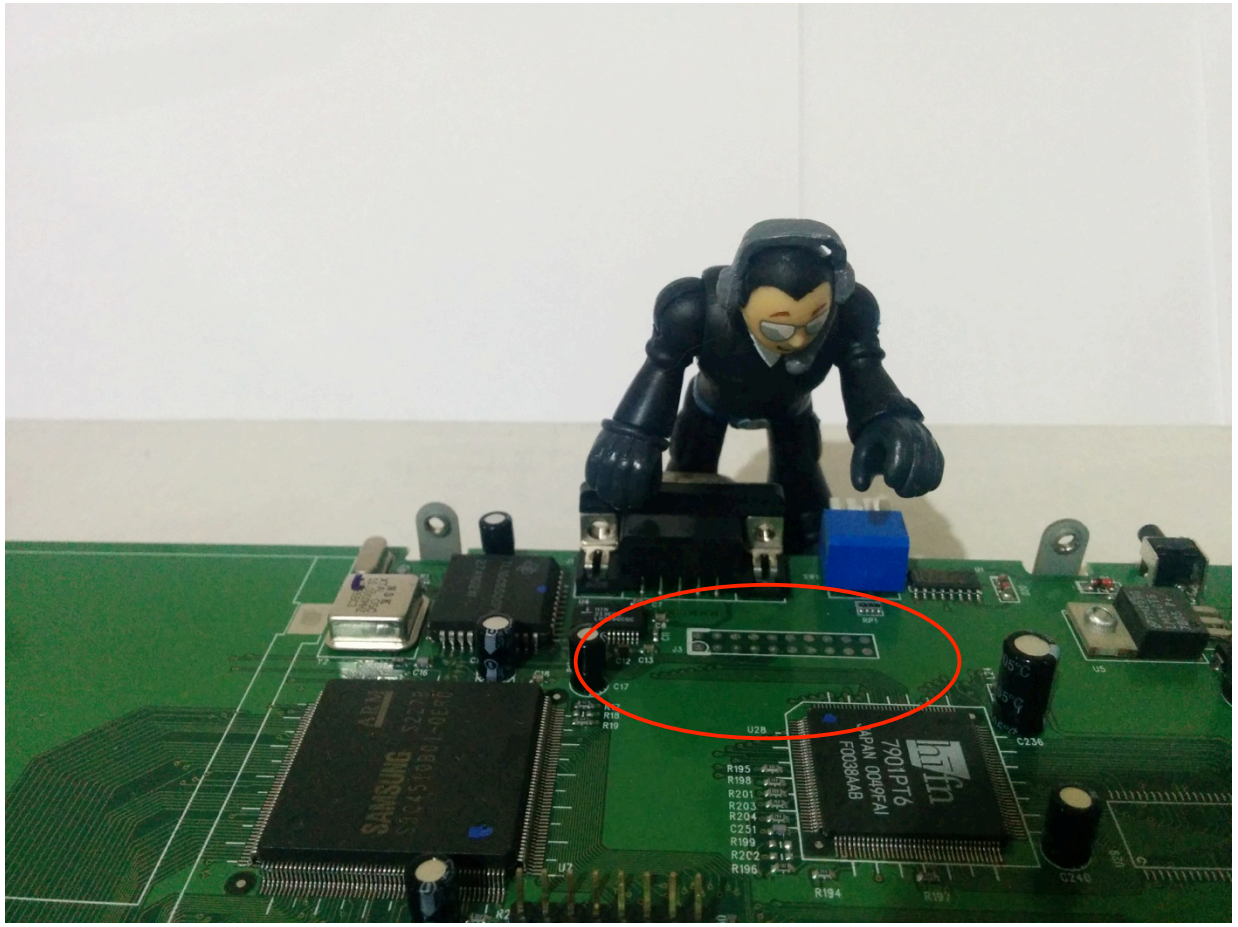

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Which one of these does not belong?

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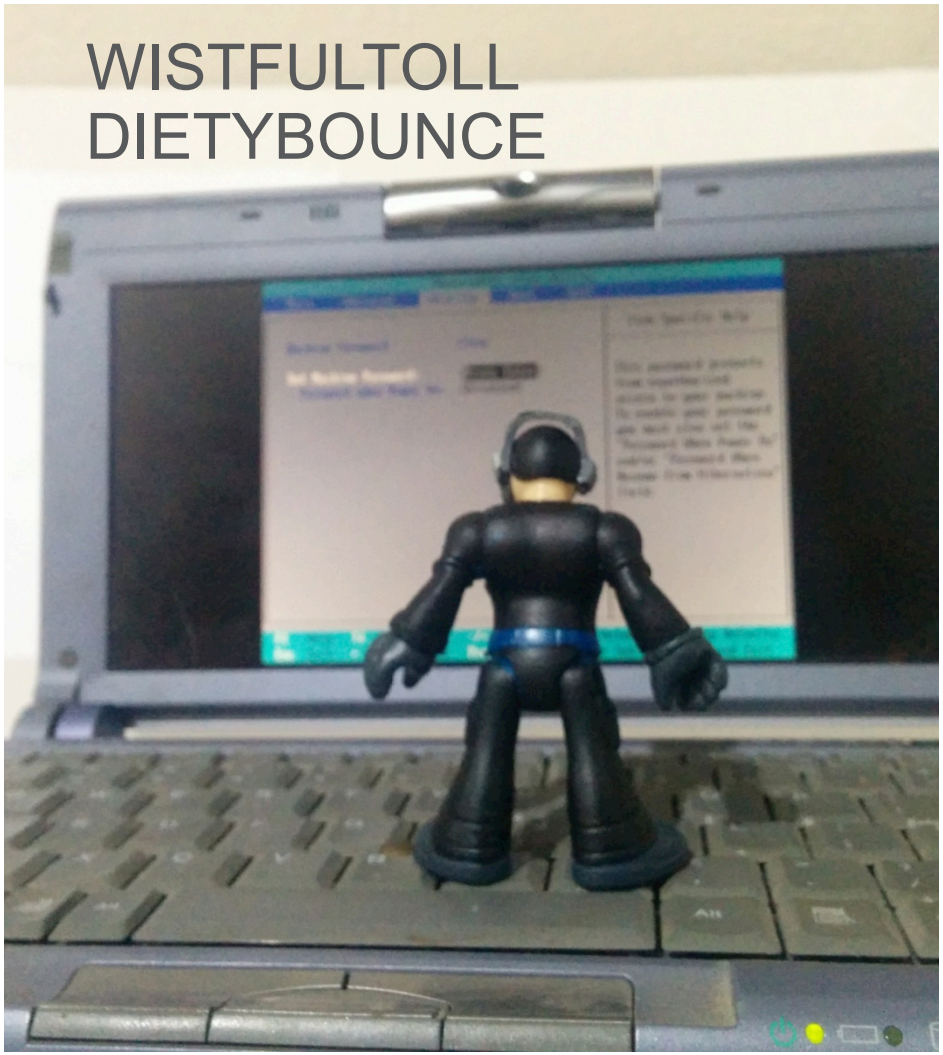
Software Compromises

Software Exploits



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BIOS/Firmware/CF Card Hacked?

Re-Flash Devices

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BIOS/Firmware/CF Card Hacked?

Re-Flash Devices

TPM Trusted Platform Module

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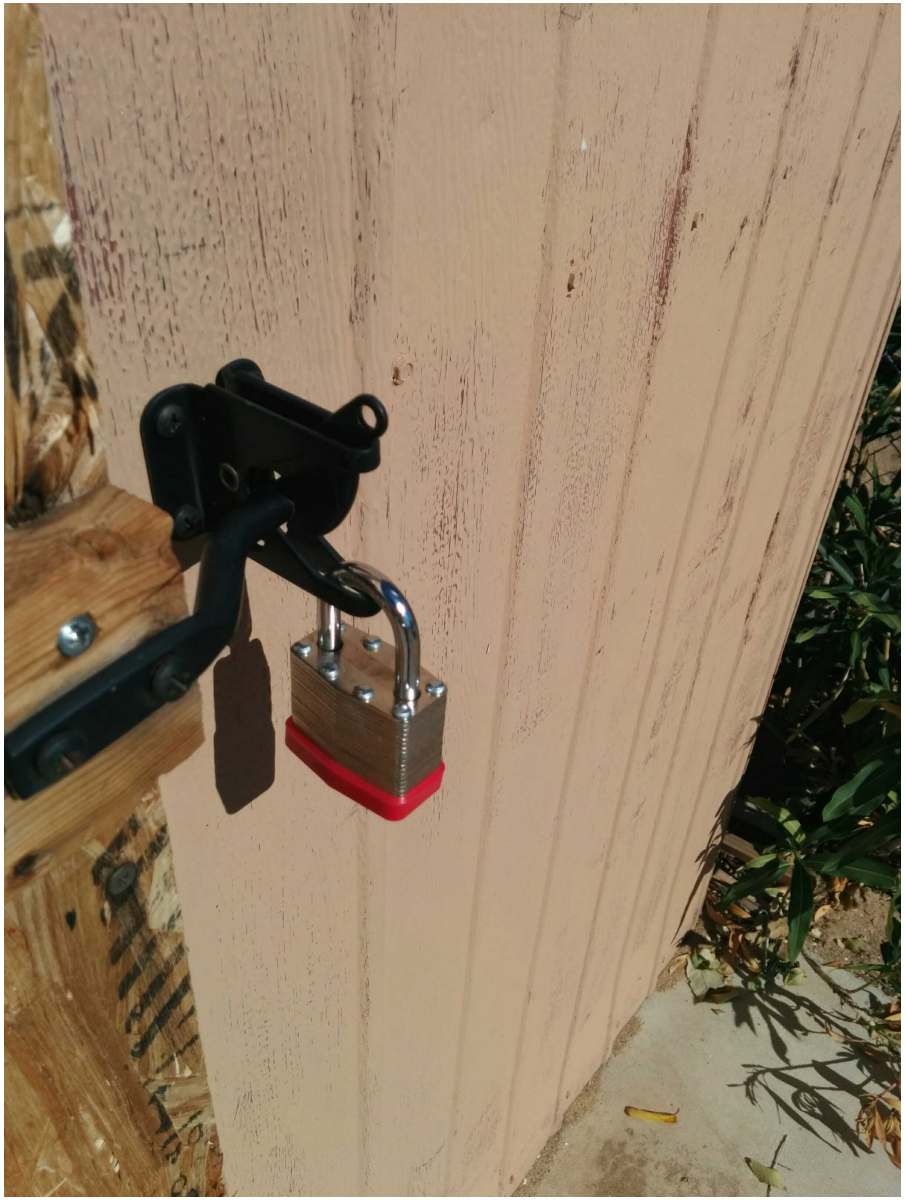
BIOS/Firmware/CF Card Hacked?

TPM



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WIFI Devices

Wifi Devices

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Cellular Networks

Cell Phone Bugs

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Cell Phone Bugs

Base Stations

CYCLONE CROSSBEAM, EBSR, ENTOURAGE, NEBULA, TYPHO

Intelligence

GENESIS, WATERWICH, CANDYGRAM

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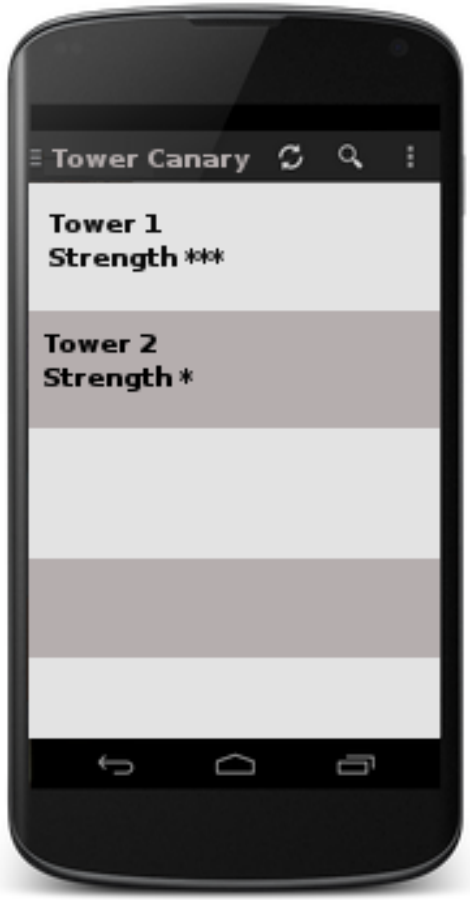
Cell Phone Bugs



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OPSEC
At All Times

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Conclusions

- Enjoy the thought experiment and discussion.
- Bugs are detectable
  - Many are based on attacks covered in Hacker cons
- Hard evidence is better than Hearsay
  - I want to hear from the first person who finds one!
- Tin-Foil hats are not stylish

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Further Reading & Sources

- SpiderLabs Blog (blog.spiderlabs.com)
- Michael Ossmann (ossmann.blogspot.com)
- Trusted Computing Group (trustedcomputinggroup.org)
- http://leaksource.files.wordpress.com

Find me on Twitter: @iamlei

Spiderlabs on Twitter: @SpiderLabs

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THANK YOU
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