Who targets the journalists? and how?

A review of the attack surface in our digital society

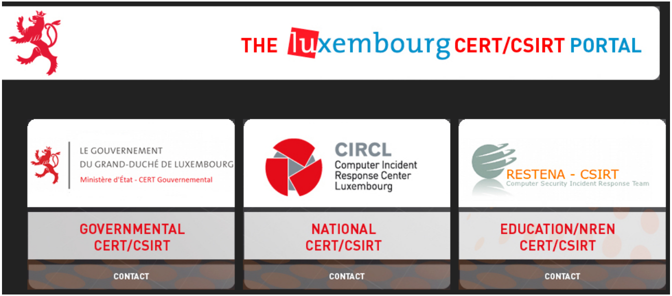
CIRCL
Computer Incident
Response Center
Luxembourg

TLP:WHITE

info@circl.lu

8th February 2014

CIRCL



THE luxembourg CERT/CSIRT PORTAL

LE GOUVERNEMENT
DU GRAND-DUCHÉ DE LUXEMBOURG
Ministère d'État - CERT Gouvernemental

GOVERNMENTAL CERT/CSIRT

CONTACT

CIRCL
Computer Incident
Response Center
Luxembourg

NATIONAL CERT/CSIRT

CONTACT

RESTENA - CSIRT
Computer Security Incident Response Team

EDUCATION/NREN CERT/CSIRT

CONTACT

- CIRCL is the national Computer Security Incident Response Team (CSIRT) for the Grand-Duchy of Luxembourg
- CIRCL is operated by SMILE, a State funded ”groupement d’intérêt économique” (GIE), designed to improve information security and create new opportunities for Luxembourg

CIRCL Statistics

- CIRCL started as a fully operational national CSIRT team in October 2010
  - In **2011**, we processed more than **4500** events for the past 12 months
  - More than 220 technical investigations and analysis were conducted in 2011
  - In **2013**, we processed **35958** events and conducted more than **1006** technical investigations
- The increase of attacks can be explained by the improved reporting process but also the growing attack surface

Statistics

- The attacks can be separated in 3 main categories (time allocated in 2013):
  - Cybercriminals (financial objective) - (50%)
  - Government-supported attackers[1] (information objective) - (40%)
  - Cyberactivists (political or "fun" objective) - (10%)
- There are more than 230 "official" operational intelligence agencies[2] worldwide and the Snowden leaks are just a small part of a single intelligence agency in US
- But what these organizations are really doing against companies, citizens and journalists? How do they proceed?

[1] Between 2011 and 2013, the increase is significant

[2] http://en.wikipedia.org/wiki/List_of_intelligence_agencies

A small advertising...

`http://www.youtube.com/watch?v=R63CRBNLE2o`

Governmental grade malware

- **HackingTeam**[3]
  - Based in Milan (Italy)
  - 40+ employees, on 6 continents, used by several dozen countries [4]
  - Malwares names: Crisis, DaVinci, Morcut, Remote Control System
  - Operating Systems: Windows, Mac, Linux
  - Mobile Devices: iOS, Android, Windows Mobile, Blackberry, Symbian
- **Gamma International GmbH**[5]
  - Based in Munich (Germany)
  - Bypass 40 Antivirus [6]
  - Malware name: Finfisher, Finspy
  - Operating Systems: Windows, Mac, Linux
  - Mobile Devices: iOS, Android, Windows Mobile, Blackberry, Symbian

[3] http://www.symantec.com/connect/blogs/crisis-advanced-malware

[4] http://www.wired.com/threatlevel/2013/06/spy-tool-sold-to-governments/

[5] https://citizenlab.org/storage/finfisher/final/fortheireyesonly.pdf

[6] http://wikileaks.org/spyfiles/files/0/289_GAMMA-201110-FinSpy.pdf

Use Cases

- 2011 - Egypt, human rights activists - Gamma [7]
- 2011 - UAE, Ahmed Mansoor, human rights activist - HackingTeam, VUPEN [8]
- 2012 - Bahrain, human rights activists - Gamma
- 2012 - Morocco, journalists (Mamfakinch) - HackingTeam
- 2013 - FinFisher Command&Control servers detected in Bahrain, Brunei, the Czech Republic, Ethiopia, Indonesia, Mongolia, Singapore, the Netherlands, Turkmenistan, and the United Arab Emirates (UAE)[9]
- CIRCL analyzed some similar cases targeting journalists but also citizens

[7] https://www.f-secure.com/weblog/archives/00002114.html

[8] https://citizenlab.org/2012/10/backdoors-are-forever-hacking-team-and-the-targeting-of-dissent/

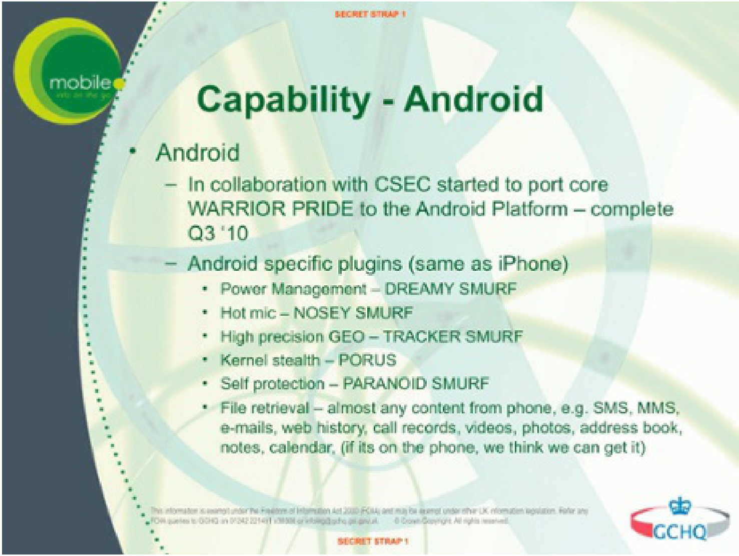
[9] https://citizenlab.org/2012/08/the-smartphone-who-loved-me-finfisher-goes-mobile/

What should I do to limit the risks of such attack?

- Dedicate a browser for your sensitive activities (e.g. web banking or alike)
- Disable unused plugins and use NoScript or similar trusted add-ons in your browser
- Use a bootable CD/USB like tails[10] to access suspicious sources
- Keep an eye on your laptop (e.g. use unique stickers to cover screws) and don't leave it unattended
- Think twice before doing an action on Internet (e.g. open suspicious URLs, inserting USB keys, open document from unknown sources)

[10] `https://tails.boum.org/`

What about your other laptop?



SECRET STRAP 1

Capability - Android

- Android
  - In collaboration with CSEC started to port core WARRIOR PRIDE to the Android Platform – complete Q3 '10
  - Android specific plugins (same as iPhone)
    - Power Management – DREAMY SMURF
    - Hot mic – NOSEY SMURF
    - High precision GEO – TRACKER SMURF
    - Kernel stealth – PORUS
    - Self protection – PARANOID SMURF
    - File retrieval – almost any content from phone, e.g. SMS, MMS, e-mails, web history, call records, videos, photos, address book, notes, calendar, (if its on the phone, we think we can get it)

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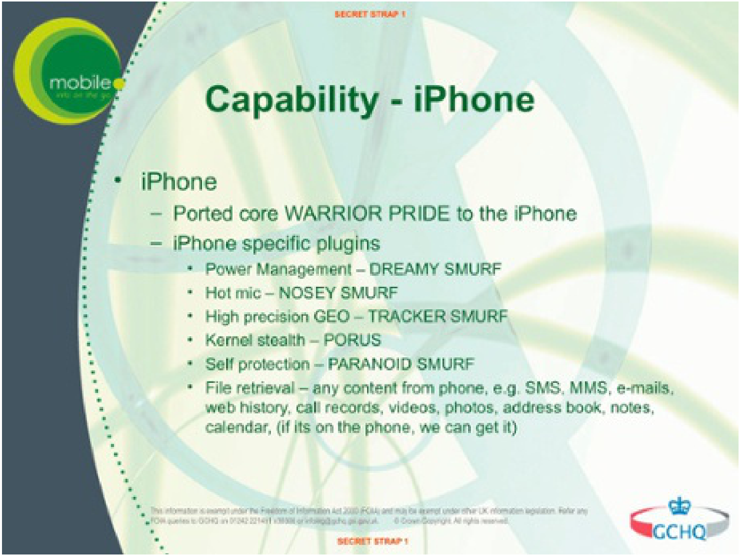
SECRET STRAP 1

What about your other branded laptop?



SECRET STRAP 1

Capability - iPhone

- iPhone
  - Ported core WARRIOR PRIDE to the iPhone
  - iPhone specific plugins
    - Power Management – DREAMY SMURF
    - Hot mic – NOSEY SMURF
    - High precision GEO – TRACKER SMURF
    - Kernel stealth – PORUS
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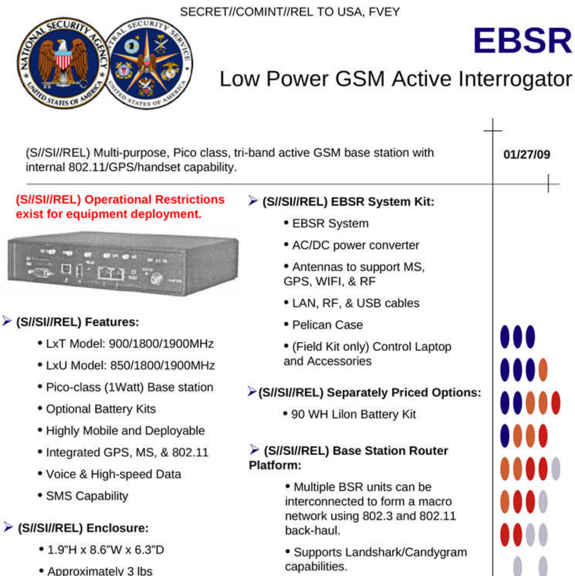
SECRET STRAP 1

Can you trust the GSM network?



SECRET//COMINT//REL TO USA, FVEY

EBSR

Low Power GSM Active Interrogator

(S//SI//REL) Multi-purpose, Pico class, tri-band active GSM base station with internal 802.11/GPS/handset capability.

01/27/09

(S//SI//REL) Operational Restrictions exist for equipment deployment.

➤ **(S//SI//REL) Features:**

- LxT Model: 900/1800/1900MHz
- LxU Model: 850/1800/1900MHz
- Pico-class (1Watt) Base station
- Optional Battery Kits
- Highly Mobile and Deployable
- Integrated GPS, MS, & 802.11
- Voice & High-speed Data
- SMS Capability

➤ **(S//SI//REL) Enclosure:**

- 1.9"H x 8.6"W x 6.3"D
- Approximately 3 lbs

➤ **(S//SI//REL) EBSR System Kit:**

- EBSR System
- AC/DC power converter
- Antennas to support MS, GPS, WIFI, & RF
- LAN, RF, & USB cables
- Pelican Case
- (Field Kit only) Control Laptop and Accessories

➤ **(S//SI//REL) Separately Priced Options:**

- 90 WH LiIon Battery Kit

➤ **(S//SI//REL) Base Station Router Platform:**

- Multiple BSR units can be interconnected to form a macro network using 802.3 and 802.11 back-haul.
- Supports Landshark/Candygram capabilities.

A mobile phone is a computer with tracking capabilities but what can I do?

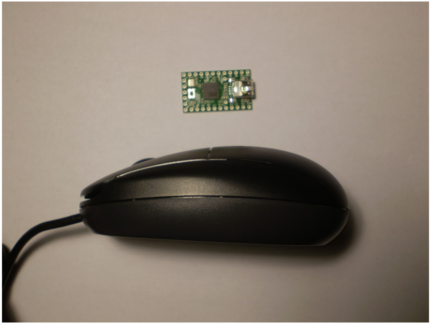
- SMS can be intercepted not only on the mobile network but at various places in the network
- End-to-end encrypted[11] instant messaging can provide better security than mobile communications
- If you really need SMS, TextSecure[12] can provide an additional layer of security including storage
- If you cannot used secure instant messaging, RedPhone or Discretio[13] can be an alternative on mobile phones

[11] https://securityinabox.org/en/pidgin_main

[12] https://whispersystems.org/

[13] https://www.discretio.com/

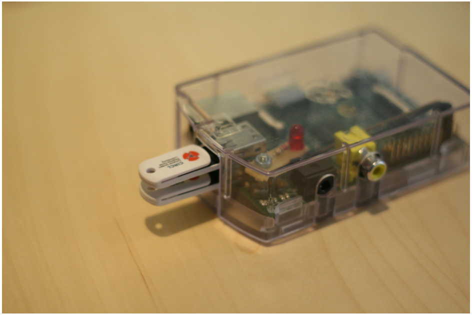
Do you trust "your" USB devices?



- Is this a mouse or a mouse with an additional keyboard?
- Additional keyboard (with pre-encoded actions)[14] in a mouse for 20,- EUR

[14] http://www.irongeek.com/i.php?page=security/programmable-hid-usb-keystroke-dongle

Exchanging documents over USB?



- USB keys are exchanged between people all the time and are a major infection vector
- We developed CIRCLean[15] to provide a concrete solution to this issue

[15] https://www.circl.lu/projects/CIRCLean/

Contact

- info@circl.lu
- https://www.circl.lu/
- OpenPGP fingerprint: CA57 2205 C002 4E06 BA70 BE89 EAAD CFFC 22BD 4CD5
- Found suspicious documents? Do you need a custom training for your journalists in the (battle)field? Don't hesitate to contact CIRCL