Hacking Ships

What Would a Hacker Do?

Carsten Cordes

- Security Consultant & Software Developer at HEC
  - Software Development Company in Bremen
- Coaching Teams in Security Aware Development
- Penetration Tester
- #1 in Cyber Security Challenge Germany 2015
- Passionate about breaking things ☺

Recent incidents

HEC| IT-ENGINEERING

Maersk Reinstalled 45,000 PCs and 4,000 Servers to Recover From NotPetya Attack

By Catalin Cimpanu — January 25, 2018 — 06:45 AM — 2

Svitzer employee details stolen in data breach affecting almost half of its Australian employees

By technology reporter Ariel Bogle
Updated 15 Mar 2018, 8:39am

The shipping company Svitzer has suffered a significant data breach affecting almost half its Australian employees

It is among the ...
Australia's new ...

For almost 11 ...
employee ema...
forwarded out...
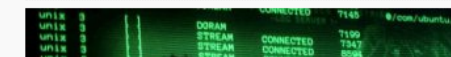
Credit: Shutterstock / Titima Ongkantong

Maritime cyber attacks are still a reality

In the April issue of its Phish & Ships newsletter providing insights and latest updates on maritime cyber security, Be Cyber Aware at Sea focuses among others on the latest cyber attack affecting the shipping industry at the Danish Svitzer, a Maersk subsidiary.

CYBER SECURITY | 02/04/18

After the world's largest container shipping line, Maersk, was hit by a massive cyber attack in June 2017, Svitzer

Naval Dome exposes vessel vulnerabilities to cyber attack

Naval Dome has now taken it up a notch by playing ... scenarios with a series of cyber penetration tests o... superyachts and cruiseships, revealing with startlin... ship critical systems.

With the permission and under the supervision of s... team hacked into live, in-operation systems used t...

While the test ships and their systems were not in a... position and mislead the radar display. Another att... pumps being over-ridden and steering gear controls...

Commenting on the first wave of penetration tests ...

The wo...
NotPe...
over th...

By a...

INDY/LIFE

50,000 SHIPS WORLDWIDE ARE VULNERABLE TO CYBERATTACKS

Adrift on a sea of information... cargo vessels can be hacked (Alexandersonscc)

COSCO's cyber attack a... maritime cybersecurity

July 27, 2018 Vishnu Rajamanickam, staff writer

Ein 🔅 team neusta Unternehmen

Challenges in Maritime Cybersecurity

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Difficult Maintenance

High complexity

Outdated Tech

Crew Turnover

Missing Standards

Satellite/RF protocols

Insecure document formats

Ein team neusta Unternehmen

A hackers mindset

"RULES...SOME OF THEM CAN BE BENT, OTHERS CAN BE BROKEN"

MATRIX

Hacking according to media

HEC |
IT-ENGINEERING

Computers

+

Black Magic

=

Hacking in reality

Research
(Lots of)

Analysis
(Lots of)

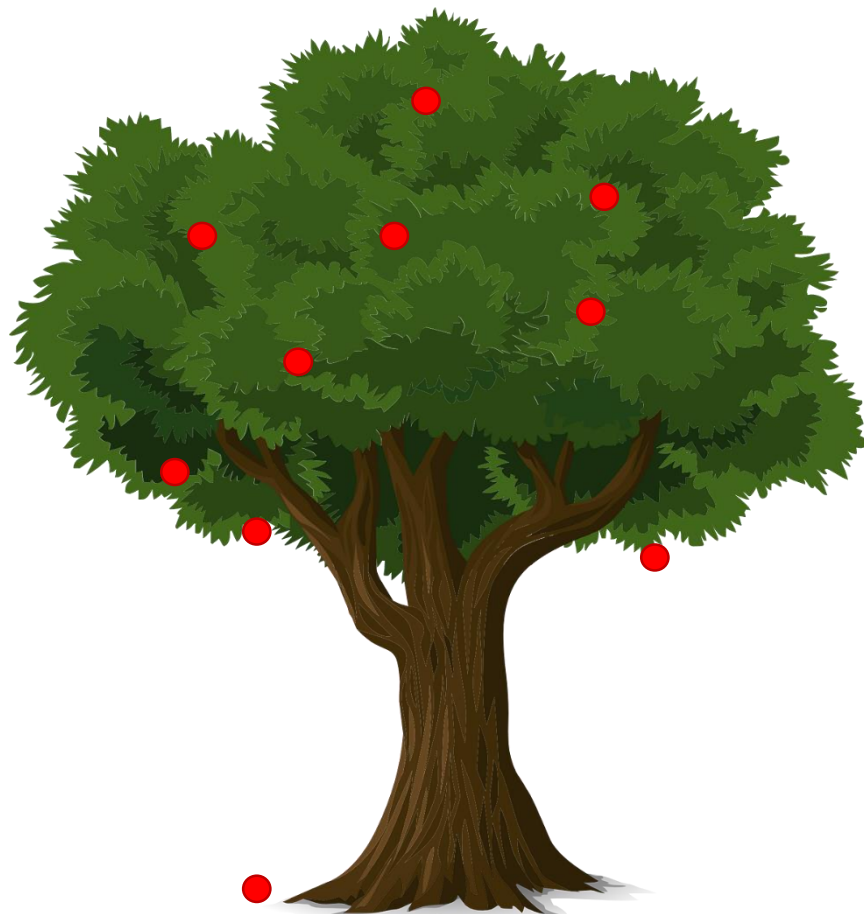Trial and Error
(Lots of)

Exploit

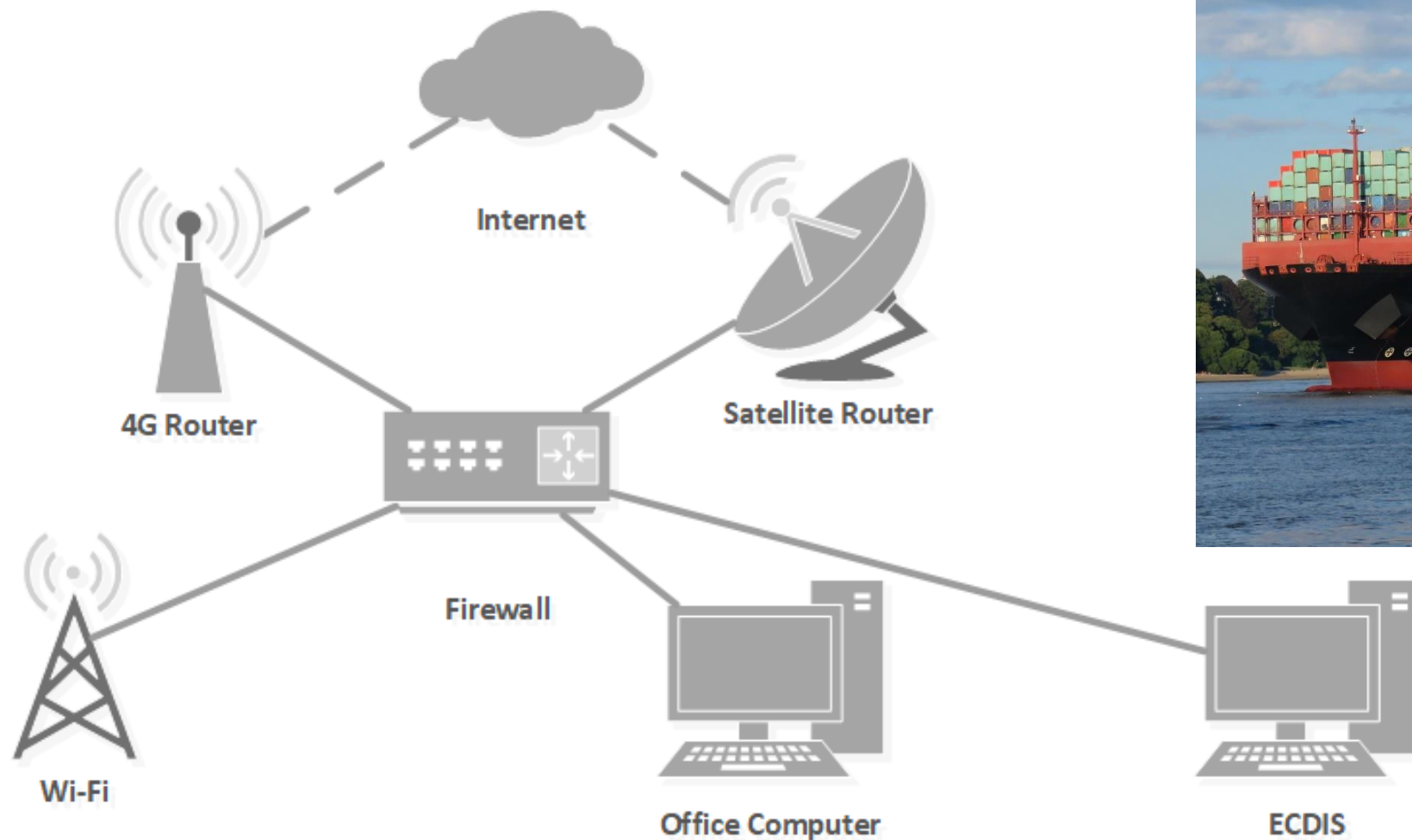„Doing bad stuff"
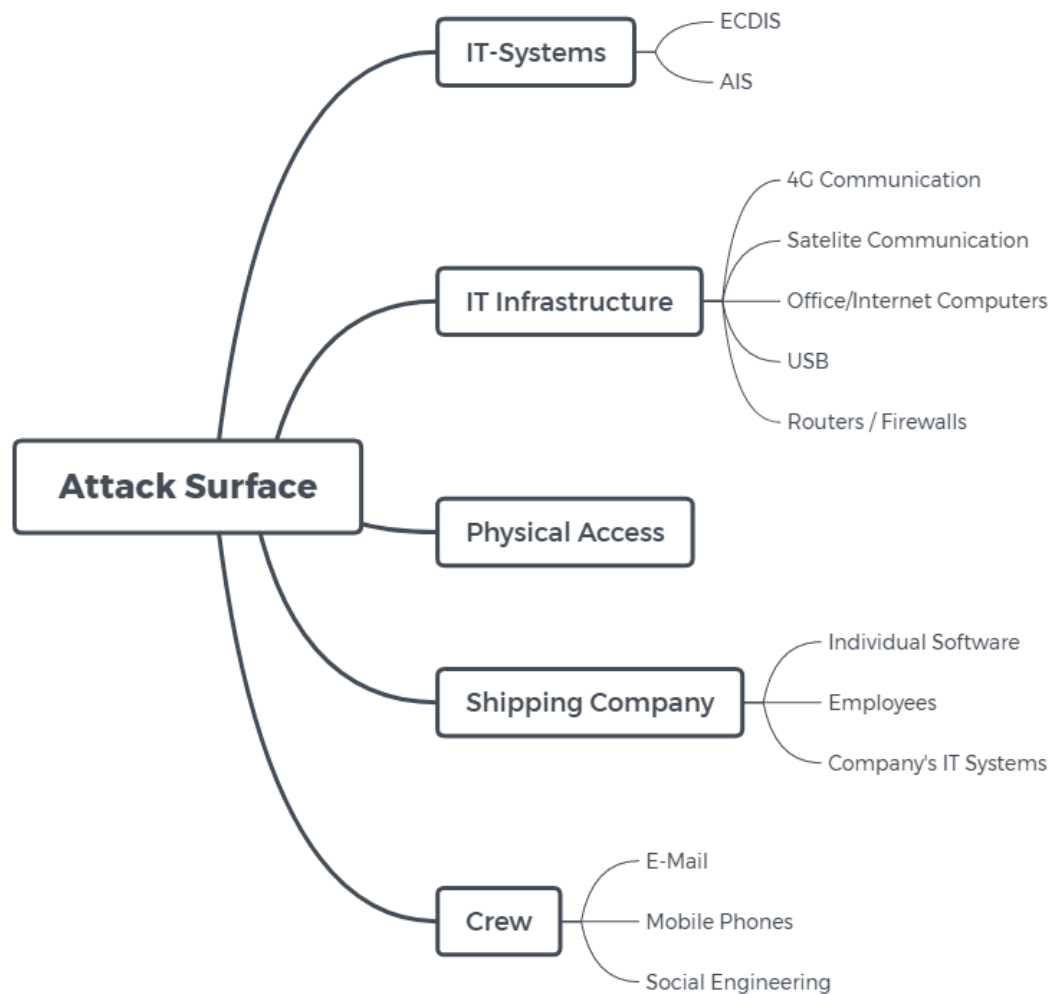(Post Exploitation)
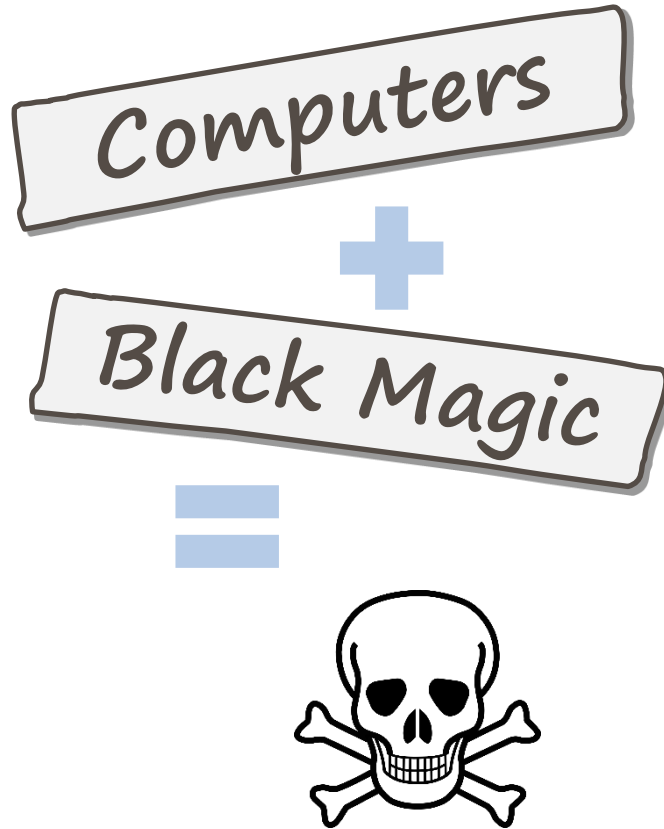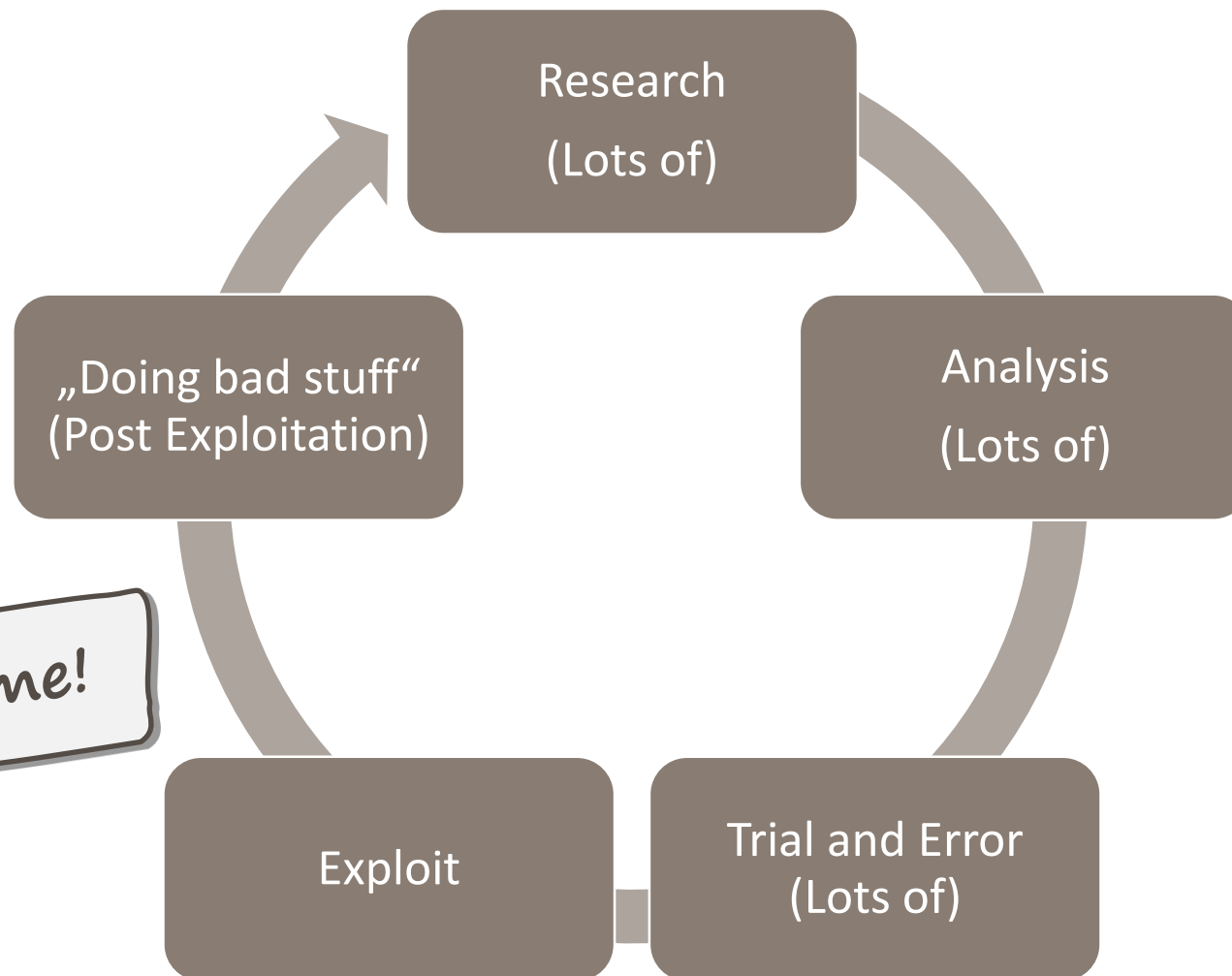
Hacking takes time!

The low hanging fruit

Hackers look for the easiest way to reach their goal.

Don't be the low hanging fruit

Hacking a vessel

Attack Surface

Attack Surface
- IT-Systems
  - ECDIS
  - AIS
- IT Infrastructure
  - 4G Communication
  - Satelite Communication
  - Office/Internet Computers
  - USB
  - Routers / Firewalls
- Physical Access
- Shipping Company
  - Individual Software
  - Employees
  - Company's IT Systems
- Crew
  - E-Mail
  - Mobile Phones
  - Social Engineering

Demonstration

Defending yourself

Talk about Security

Knowledge & Awareness > Tech

Network Separation

Best Practices

Backups

Update Systems

Emergency Plans

BYOD = Danger!

Proper Passwords Everywhere!