Cyberwar - Just „Warcraft in Space?“

Seminar Angewandte Informatik

Nico Maas

Personal Details

Nico Maas

IT Systemelektroniker (Uni SB)

Applied Informatics

3. Semester HTW

mail@nico-maas.de

Agenda

- **Definition**
- **Traditional War**
- **The Earth**
- **The Internet**
- **Sabotage**
- **Espionage**
- **Weapons**
- **Stakeholders**
- **Politics**
- **Re-Definition?!**

Definition

Definition

Traditional War

The Earth

The Internet

Sabotage

Espionage

Weapons

Stakeholders

Polictics

Re-Definition?!

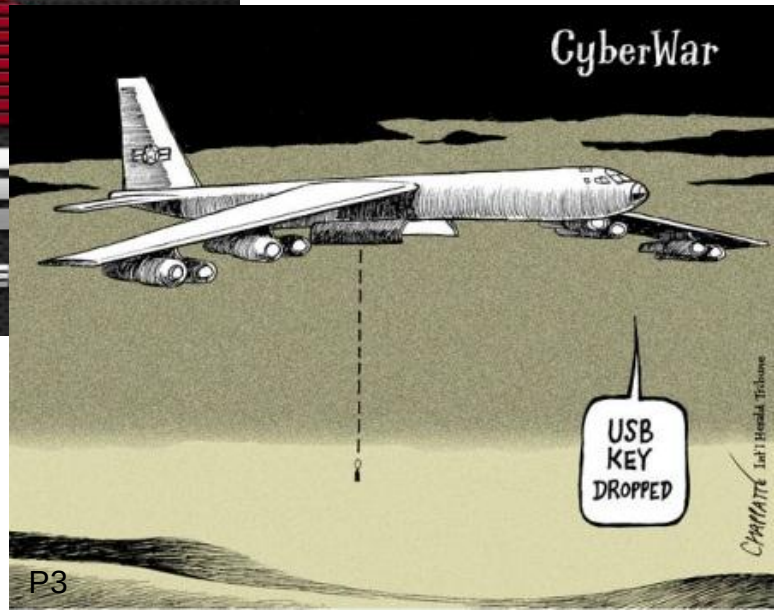
“One problem is that there's no clear definition of "cyberwar." What does it look like? How does it start? When is it over? Even cybersecurity experts don't know the answers to these questions, and it's dangerous to broadly apply the term "war" unless we know a war is going on.” [C0]

Bruce Schneier

Definition

P1

P2



P3

Definition

Definition

Traditional War

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Re-Definition?!

- **Cyberwar**
  - Cyber: „involving, using or relating to computers, especially the Internet” [C1]
  - War: „armed fighting between two or more countries or groups” [C2]

Traditional War

Definition

Traditional War

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Sabotage

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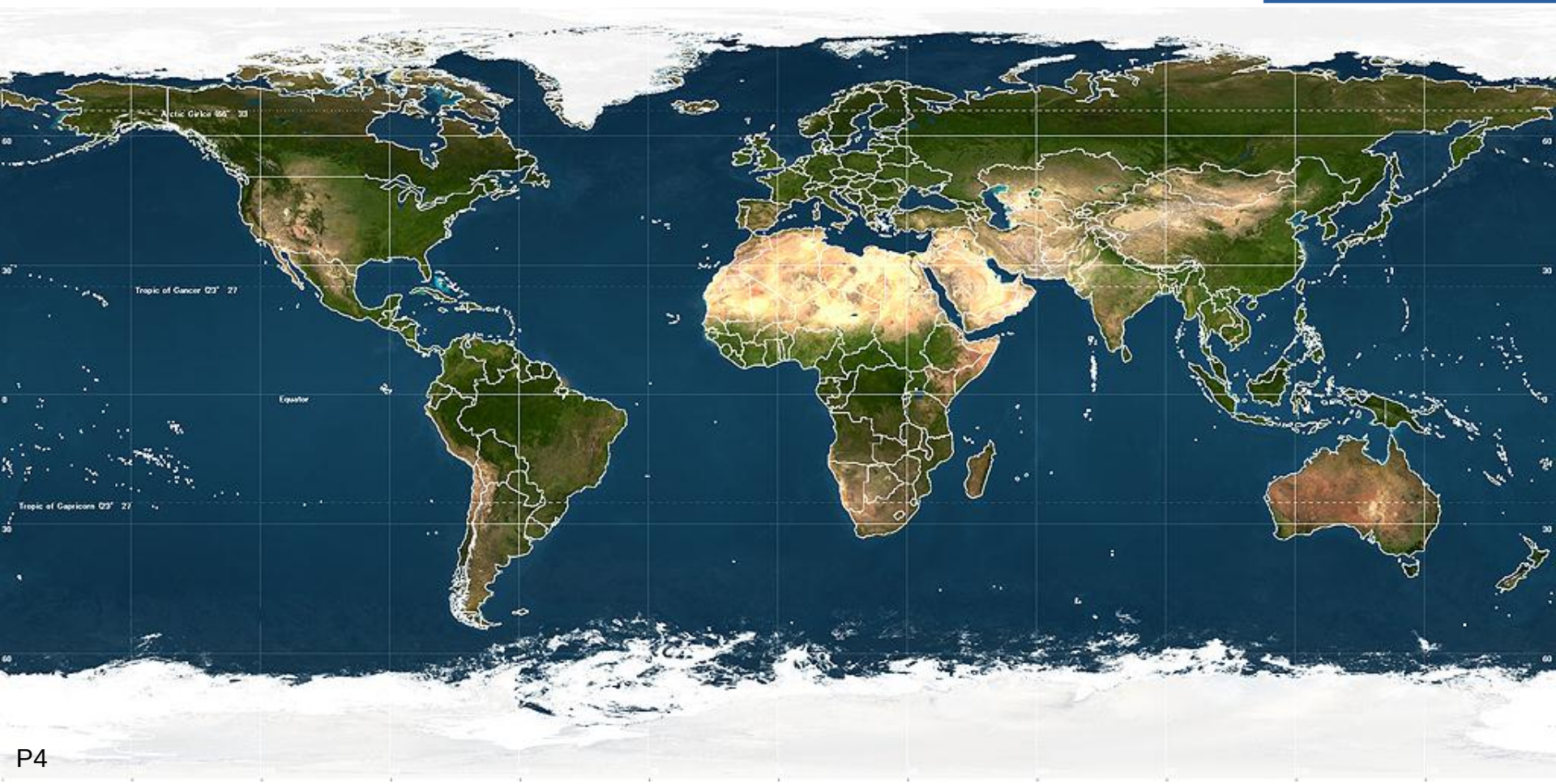
Polictical

Re-Definition?!

- Countries
- Declartion of War
- Borders
- Methods
  - Sabotage
  - Espionage
  - Weapons
- Stakeholders
- Political

The Earth



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The Internet

P5

Sabotage: Stuxnet (2010)

Definition

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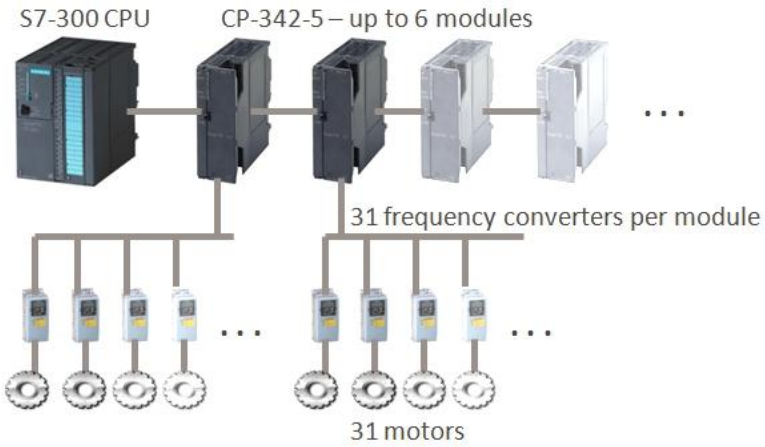
Re-Definition?!

- Siemens Simatic Step 7
- Special Configuration of CPUs, Controllers and Motors
- Centrifuges spinning at 1064 HZ
- Several Hundred Centrifuges destroyed
- Unknown Attacker



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Espionage: F-35 Lightning II (2009/2011)

Definition

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Politics

Re-Definition?!

- Project sum about $300 Billion US Dollar
- Multiple Attacks
- RSA SecurID Token Security breached
- Several Terabytes of Data downloaded
- Attacks originating from China

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P8

Weapons: Reaper (2009/2011)

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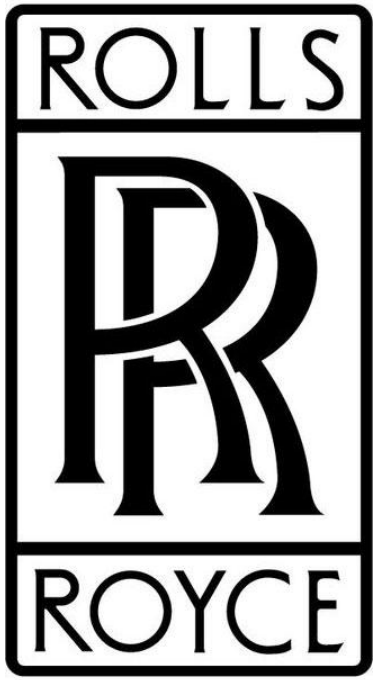
Re-Definition?!

- Upgraded Predator Drone
- Able to fire Hellfire Missiles and Bombs
- More than 230 Missions
- More than 2000 Human Targets eliminated

- …and already compromised two times:
  - Video Downlink is unencrypted
  - Trojan Keylogger infected the Control System

P9

Stakeholders (SIPRI Top 100 Arms Producer)



NEC

MITSUBISHI HEAVY INDUSTRIES, LTD.

THALES

SAAB

SAMSUNG

hp

invent

eurocopter
an EADS Company

AIRBUS

EADS

EADS astrium

EADS DEFENCE & SECURITY

BOEING

Samsung Techwin SGR-1

Political

Definition

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Re-Definition?!

Article 5 of the Washington Treaty

„The Parties agree that an armed attack against one or more of them in Europe or North America shall be considered an attack against them all and consequently they agree that, if such an armed attack occurs, each of them, in exercise of the right of individual or collective self-defence recognised by Article 51 of the Charter of the United Nations, will assist the Party or Parties so attacked by taking forthwith, individually and in concert with the other Parties, such action as it deems necessary, including the use of armed force, to restore and maintain the security of the North Atlantic area.[...]"

"Cyberwar Defense Centers"

Politics

Titanic
P10
Die hält den dicksten Virus auf!
Bundeswehr im Cyberwar:
DE MAIZIÈRE ERRICHTET FIREWALL!

Re-Definition?!

Definition
Traditional War
The Earth
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Polictics
Re-Definition?!

"The traditional definition of War
is as old as mankind.
Maybe this definition has to be corrected
to fit modern times.."

Questions?

Thank you very much for your attention!

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