

IoT = SoT?

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САКА ВІРПА ІНІ!
ДЕРЖАВА САА Д!

Kognitiivinen kerros

- Kyberhyökkäys: Social engineering, Phishing, Online behavior tracking, Rogueware/Scareware, Identity Theft, Sybil Attack

Palvelukerros

- Kyberhyökkäys: Denial-of-service (DoS) , Distributed denial-of-service (DDoS) attack, Spoofing, Advanced Persistent Attack

Semanttinen kerros

- Kyberhyökkäys: Tietovarkaus, tiedon tuhoaminen tai väärentäminen, tiedon saastuttaminen, tiedon luottamuksellisuuden, eheyden ja saatavuuden kiistäminen

Syntaktinen kerros

- Kyberhyökkäys: SysAdmin assumption, Drive-by Exploits, SQL-Injection Attacks, Search Engine Poisoning

Fyysinen kerros

- Kineettinen tuhoaminen, fyysinen varkaus/katoaminen/vahinko
- Kyberhyökkäys: Component Corruption, Hack/Shack/Lab/Fab attack



**“I NEVER THINK OF THE FUTURE - IT COMES
SOON ENOUGH.”**

ALBERT EINSTEIN

**Technology is developing faster than security:
Internet of Threats?**

Intellectual challenge to minds – to all of us



Functional security

Continuity Management - Anticipation - Perception

Securing information


Confidentiality - Integrity - Availability

Privacy



Securing our businesses, societies and our way of life



The background features a light blue gradient with various circular icons representing IoT concepts: a person, a laptop, a cloud, a mail envelope, and a gear. A large blue rectangular box with rounded corners is centered in the upper half of the image, containing white text.

IoT: It's about connecting devices over the internet, letting them talk to us, applications, and each other.

The background features a light blue gradient with various circular icons representing IoT concepts: a person, a laptop, a cloud, a mail envelope, and a gear. A large light blue rectangular box with rounded corners is centered in the lower half of the image, containing black text.

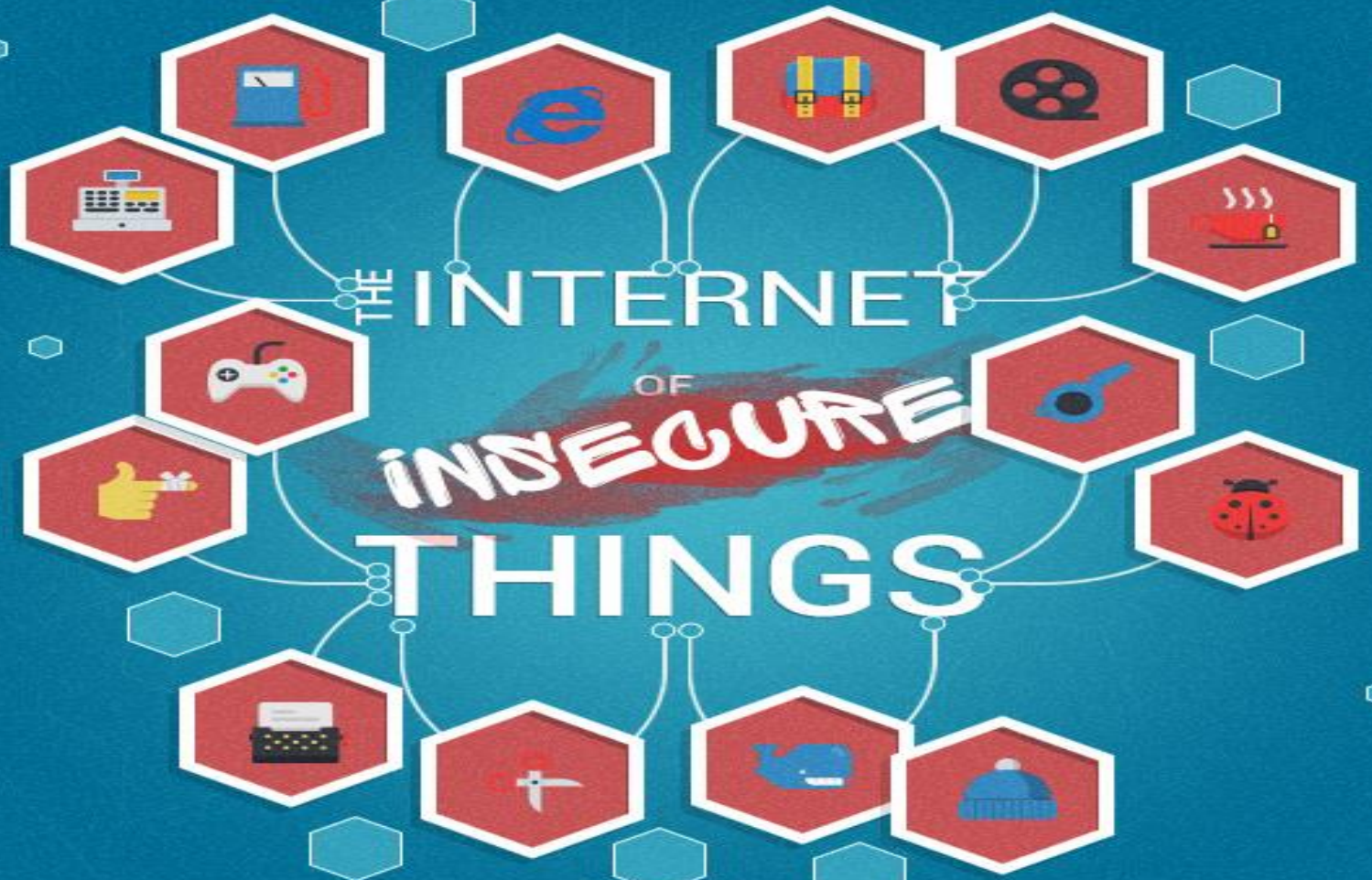
Security and privacy are the biggest challenges for IoT.

Rakennetaan digitaalisen liiketoiminnan kasvuympäristö

1 Perustetaan Esineiden internet-ohjelma, joka koordinoi eri ministeriöiden toimet

1. Perustetaan ohjelma, jonka tavoitteena on saada aikaan muutos elinkeinoelämän toimintatavoissa siten, että kaikessa liiketoiminnassa hyödynnetään tehokkaasti digitaalisuuden mahdollisuudet. Ohjelmalla parannetaan kokonaisvaltaisesti elinkeinoelämän ja julkisen sektorin vuorovaikutuksella maassamme toimivien yritysten menestyksen edellytyksiä digitalisoituneessa toimintaympäristössä (Esineiden internet-ohjelma). Ohjelma vauhdittaa pilvipalveluympäristössä tapahtuvaa digitaalista palvelutarjontaa ja kokeiluja, tekee Suomesta houkuttelevan sijoittumiskohteen uusille teknologiayrityksille sekä kasvattaa suomalaisten yritysten kansainvälistä liiketoimintaa. Ohjelmassa luodaan kannusteita digitaalisten hyödykkeiden, uudenlaisten ansaintamallien ja innovatiivisen yritystoiminnan kehittymiselle.

THE INTERNET
OF
INSECURE
THINGS



HP:

70% of the Top 10 security problems that are seen with IoT devices are the same as the Top 10 security problems that are seen with IoT devices:

devices commonly have:

- Insecure Web interface

Internet of Things - Quite a mess from the security point of view

80% of the Top 10 security problems that are seen with IoT devices are the same as the Top 10 security problems that are seen with IoT devices:

- Insecure software or firmware
- Poor physical security

require passwords of sufficient complexity and length.

unmonitored and unpatched.

The thing that worries me regarding IoT security is that security is not an important issue when one build an internet-connected device

Smart = Exploitable, Vulnerable

älykkäät prosessit tulevat iatkossa

**Smart devices aren't such a
clever idea if they're not secure.**

Mikko Kosonen, Sitra

IoT presents a significant mix of opportunity and risk

Adopting a security-focused approach

- Should be designed with privacy and security in
mind

15 SEP 2015 NEWS

FBI in Internet of Things Cybersecurity Warning


Why care?

A network diagram with nodes and connecting lines. Several nodes are highlighted with colored circles: a pink circle with a laptop icon, a green circle with two speech bubbles, and an orange circle with a person icon. The background is light gray with faint network lines.

- Trust, if there is no trust...
- Privacy, who has your data and how that is utilized?
 - Valuable data: Personal, location..
 - Making money (spamming, DDoS..)
 - Bridgehead to other attacks
 - Blackmail
 - Spying
 - More dramatic consequences

Europol warning: 'Internet of Everything' could lead to 'online murder' by end of 2014

SoT = Security of Things



**NSA chief: These
are the 3 cyber
threats that keep
me up at night**

- 1. Cyber attacks that do infrastructure damage**
- 2. Data manipulation**
- 3. Non-state actors**

Internet of Things

- Security must be the foundational enabler for IoT.
- There is currently no consensus on how to implement security in IoT on the device.
- There is no silver bullet that can effectively mitigate the threats.



Security & Privacy



NEEDS:

- Protecting data and people
- Safeguarding all IoT-devices
 - Incident prevention and detection (updates)
 - Overall management of security risks



Internet Of Things

Straight Ahead



**The emergence of the
Internet of Everything will
challenge both
manufacturers and
consumers.**

FEDS WARN AIRLINES TO LOOK OUT FOR PASSENGERS HACKING JETS

Internet of things poses more challenges than opportunities

Wearable Bluetooth devices seen as the biggest nightmare, Cisco says



Responsibility

Kotimaa 13.9.2015 klo 18:05 | päivitetty 13.9.2015 klo 18:05

Professori: Kyberturvallisuudesta kilpailuetua Suomelle

Kyberturvallisuusalan professorin Jarno Limnéllin mukaan tietoverkkojen hyödyntäminen teollisuudessa nousee tai kaatuu turvallisuuteen. Tietoturvaosaaminen voi tuoda kilpailuedun suomalaisyrityksille.



Suosittelen

Ole kavereistasi ensimmäinen, joka suosittelee tätä.



A small blue forget-me-not flower with yellow centers is growing from a crack in dark, cracked earth. The background is a blurred, dark, textured surface.

Thank you!

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