SSSSHHHH... TOP SECRET PRESENTATION

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Network Protection

ssh
communications
security

GLOBAL, EUROPEAN AND FINNISH SECURITY LANDSCAPE

Surveillance tools and governments

- USA utilize unlawful and questionable actions in cyberspace

- UK gets hit by it's own actions (i.e. BA meltdown)

- DE start decrypting and "hacking back" in large scale

- FI is preparing laws for full scale surveillance rights

European Union regulatory actions

- General Data Protection Regulation (GDPR), Network Information Systems (NIS)

ENISA recommendations and publications

- Airport security, SmartGrid security

- SmartCars and IoT

- Various programs to secure 5G

RESOURCE SCARCITY

Global overheating

- Global demand for employment → very good incomes possible

- Engineers, programming, sales, consultants …

- WannaCry teached us that old, unpatched software is a severe risk

- Human factor remains the biggest threat and nothing seems to challenge it

European Companies in CyberSec

- Only handful of high level EU based companies left

- In Finland we are only a few anymore

- Government's starting to think maybe this require in-house development by gov's

Working in software business
-- lessons learned & amazing outcomes

PRODUCT DEVELOPMENT PROJECT - SSHFW

SSH Firewall

- Firewall with IPSec VPN

- **Finnish source code** from scratch

  - IP stack (dualstack IPv4 and IPv6)

  - Engine for packet forwarding, filtering, IKEv2 and tunneling

  - Policy Manager for multi-policy environment

  - Graphical User Interface and standard-API (rest-API)

- Based on standard Intel CPU and commonly available hardware

- Able to saturate multiple 10G Ethernet links

  - Currently 16x 10G in one 2U server, >50 Mpps, >1M/s flow setup rate
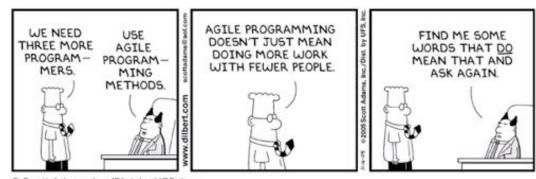
  - AES-GCM_256 encryption, SHA-2 and TLS 1.2

LEARNING NEW HABITS

- Kiss goodbye for emails → start to do some severe chatting instead

- Reorganize your calendar → what to "do" all day long

- Focus to listening → you can't understand a word in coffee breaks anyhow

- Get used to lonely mornings → Serious programmers arrive at lunch time

WORKING WITH PEOPLE – EH, PROGRAMMERS

- It has being an **AMAZING** learning experience
  - Experience how software is actually produced, tested, documented, released and finally sold
  - Experience how people in software industry work, network within others and relax

- Most amazing are the **personal characters** that you meet and work with
  - Quote while recruiting: *"I will join your team if you pay me fortunes and delivery is optional"*
  - Quote from senior expert: *"Bad day for work, my neck is hurting. I return to home instead."*
  - Quote from senior expert: *"I know it is wrong (coded) but I don't have the inspiration to fix it."*
  - Quote at team scrum-meeting: *"It is ready, I committed it last evening"* (to be precise: at 3:00AM by log entry)

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