Initiatives and Activities in Information Security:

the Landscape in Finland

Alexey Kirichenko

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F-Secure Corporation

- Data security company, established in 1988
- Mid-sized, around 850 employees
- Head-quartered in Helsinki; the business is truly global
- Focus: anti-malware technologies, on-line data storing and sharing, “mobile” security
- Partnerships with ISPs and mobile operators
- Traditional corporate market is still very important

Disclaimer

Going to express my personal views on the matters.

Not presenting official opinions of F-Secure Corp.

or Finnish national establishments, such as

Finnish Funding Agency for Technology and Innovation (Tekes)

or the Ministry of Transport and Communications (MTC).

This gives some freedom of speaking…

Agenda

NIS Strategy

Education

Legislation

Research, etc.

The game plan

- List the areas where cooperation and efforts on the national level are to be expected
- Check the status of the “NIS Strategy” document
- Find out what’s been done and what’s going on

The “Common Sense” list

- Legislation: laws, acts, regulations, liabilities, practices
- Technology and process development: secure design and implementation (HW and SW), standards, certification programs, security-related validations, risk management, …
- Education: primary and high schools, Universities, training for non-security professionals, awareness raising, law-related, …
- Research: national research programs (Tekes-supported), SHOKs (Finnish Strategic Centres for Science, Technology and Innovation), …
- Coordination and info sharing: groups, boards, etc. FICORA (Finnish Communications Regulatory Authority), CERT-FI, …

NIS Strategy history

- "Government Resolution on National Information Security Strategy", the 1st edition was published in 2003, the first of its kind in Europe.
- The 2nd edition came out in December 2008.
- Then "Action Programme" for the NIS Strategy was ready in the end of 2009.
- The process was kept very open: consultations with experts in multiple areas and also the public debate via otakantaa.fi site.
- "Action Programme" presents – and prioritizes – nine projects, is a good foundation for understanding the plans and status in the InfoSec area in Finland.
- "EVERYDAY SECURITY IN THE INFORMATION SOCIETY – A MATTER OF SKILLS, NOT OF LUCK."

THANKS TO:

- Timo Kievari (coordinating the Information Security Group of The Ubiquitous Information Society Advisory Board on the side of MTC)
- Reijo Juvonen (director of the ICT SHOK Future Internet research program)
- Mikko Hyppönen (CRO of F-Secure Corp.)

Action Programme

- Prepared by the Information Security Group, working under the Ubiquitous Information Society Advisory Board appointed by MTC
- Interfaces with certain projects of the Ministry of the Interior's Internal Security Programme and projects of the Information Security of Public Administration led by the Ministry of Finance
- Goal: make everyday life in the information society safe and secure for everyone in Finland and ensure that individuals and businesses are able to trust the security of their data in information and communication networks and related services.

The first priority projects

- First priority: “Basic Skills in the Ubiquitous Information Society”
- Project 1:
  Increasing information security awareness
  “Information security is the responsibility of all those who participate in the information society and everyone must understand their share of this division of responsibility.”
- Project 2:
  Service provider’s responsibilities, rights and obligations
  “The service provider’s responsibilities, rights and obligations will be clarified and the use of reliable information security solutions expanded.”

Information security awareness

- “It is particularly important to improve understanding of information security everywhere in the society.”
- Basic education
- University courses
- Information security training, in particular, SME sector
- National Information Security Day
- Law-related education

Primary and high schools

- Finnish Internet Awareness and Safety, a joint action of “Save the Children Finland”, “The Mannerheim League for Child Welfare”, and FICORA. More than 30 partners.
  “Provide children, parents and teachers with knowledge and tools for guiding children in the Internet society.”
- Safer Internet Day – a nationwide campaign
  Schools can invite trainers, receive material.
  “… acting responsibly online; understanding the nature of privacy and publicity online, legal issues, cyber bullying, technical security, game, social networking; encouraging critical attitude towards the online information, …”
- www.tietoturvakoulu.fi
- Longer-term goal: make InfoSec education a part of the school curriculum.

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Further education

- F-Secure runs “Malware Analysis” course in Aalto (HUT) and Helsinki Metropolia Universities (quite deep reverse engineering, internals of Windows OS)
- Training for professionals in the public sector and safety-critical areas
- Information security communications directed at SMEs based on business needs
- Information Security Manual for Mobile users (common threats, ways of protection, how to act if an incident occurs)
- National Information Security Day

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Responsibilities, rights, and obligations

- Understanding of laws, responsibilities, rights is vital. Education is one important direction, clarity of the regulatory framework is another.

  "The clarity and predictability of the regulatory environment is of great importance for increasing Finland's attractiveness and competitiveness. Finland should develop its legislation so that the regulatory framework for information security is as light as possible and at the same time comprehensive in scope."

Regulatory Framework

- Finland ratified the Council of Europe Convention on Cybercrime on 24 May 2007.
- The Act on the Protection of Privacy in Electronic Communications
- Data Protection Act
- Finnish Personal Data Act
- eGovernment Legislation
- eSignatures Legislation
- …

Convention on Cybercrime

- A number of the Criminal Code's provisions on cyber offences were amended in 2007.
  "In Finland, cyber offences are criminalized to a great extent."
- We find an interesting example in the not-so-distant past: the "m00p" case, a virus-writing group that had more than 10 members from various countries.
  Started operations in 2004
  Members wrote several bots (Breplibot, Zotob, …)
  Profit: money
  One arrest in 2005 and two more in 2006

Three held over virus e-mail plot

Three computer experts have been arrested over an alleged international plot to spread viruses via e-mail.

Viruses were allegedly sent as attachments on spam e-mails

Police say the viruses run without the knowledge of the computer owner and allow criminals to access any stored private and commercial information.

The three men are alleged to have targeted UK businesses since at least 2005, and infected computers worldwide.

Those arrested are a 63-year-old in Suffolk, a 28-year-old in Scotland and a 19-year-old in Finland.

BBC

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Sentencing

- May 2008
- Sentence: 7 months in prison

» 180 hours of community service!

- Computer confiscated

» Returned, only hard drive confiscated!

Service Providers …

- must maintain information security
- must issue security notifications to their customers
- must notify FICORA about major faults and disturbances in communication networks and services
- must inform CERT-FI about significant security breaches in their networks
- must monitor their networks and services in order to detect fraud
- entitled by law to take the necessary measures to ensure information security by removing malicious software from messages or preventing transmission of e-mail messages if necessary for safeguarding the network and their services in general
  (limited right to process identification information of messages)

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Data Security company's views

- "We have to anonymize, by all means, the collected data and undertake processes to prevent danger of mistakenly committing copyright infringement." Reverse engineering risks.
- High hope is rights similar to those of Telecom operators: data to be used only for the customer protection purposes.
- Currently, data security companies are very easily seen as "third party intruders".
- Getting data from the clients by their expressed consent, EULA. Laws vary, hard in practice.
- Efforts on the national level are not sufficient.

One example

Sent: Friday, August 20, 2010 11:13 AM

To: anti-virus-partner-tech-forum@list.F-Secure.COM

Subject: ORSP Communication

Hi,

since when does ORSP use UUIDs?

This way all requests can now be reidentified to ONE host!

It has always been communicated to customers that the ORSP-Client communicates a HASH to the servers, the filename and possible local analysis results.

This change has neither been documented nor communicated to partners or customers and breaches privacy and trust.

I request a complete information on that.

Future changes to ORSP Client must be well documented and made available to partners and customers.

STOP this salami technique!

Other Project 2 Goals

- Promoting the close integration of information security into the basic structures of the information society
- Improving comparability of the information security features of services and products
- Making information security services more visible

The 2nd priority projects

- Information Risk Management and Process Reliability
- Project 3, Identifying information risks and data protection requirements
  Focuses on tools, models, and training for risk management, particularly in the SME segment to help organizations clarify the supervision and management of their information risks and security requirements.
- Project 4, Safeguarding continuity of business activities and the public's access to services (reliability)
  Reviewing approaches to safeguarding functionality of the information and communications services, which are now "functions vital to society", on the national and international levels.

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Research efforts

- Project 8, Research project on near-future information security trends
  "Survey near-future information security threats, which relate, in particular, to new technologies, services, production models, and corporate structures. In addition, an assessment will be made of the establishment of a separate information security programme."
- ICT SHOK (Finnish Strategic Center for Science, Technology and Innovation) Future Internet Program Information Security work package

Conclusion

To finish on a high and positive note, here is one of the main objectives of the NIS strategy:

By 2015 Finland will be the leading country in the world in terms of information security.

Thank you!

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