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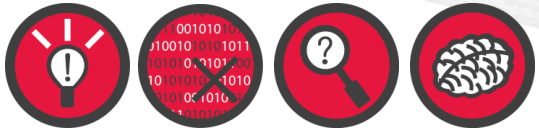

Tailoring information security to business requirements

10-year anniversary

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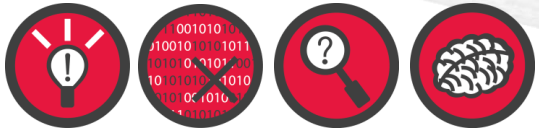


1. History

Thanks to the enablers:

CETREL a SIX Group company

telindus Belgacom ICT

SRC security consulting

LE GOUVERNEMENT DU GRAND-DUCHÉ DE LUXEMBOURG
Ministère de l'Économie

1. History

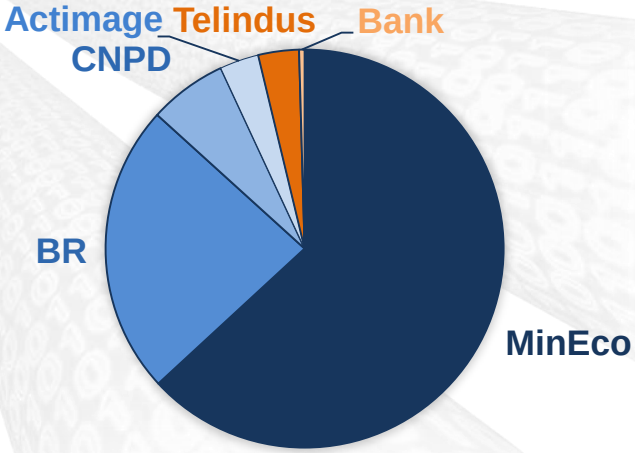
The first year

- itrust: acronym of

  "Information:

  Techniques and Research for Ubiquitous Security and Trust"

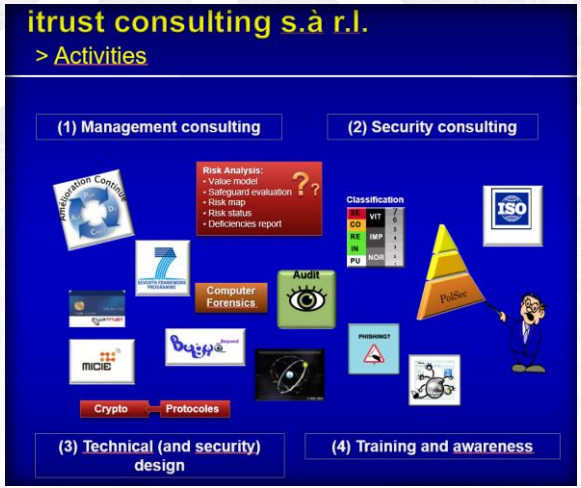
- An SME from Luxembourg specialising in Information Security Systems
- Created Jan 4th, 2007
- First recruitment, myself, on March 1st, 2007
- First customers:



1. History

The first growth

- First location: my home
- First students: Feb 2008: 2 BACH-UL, March-Aug: 2xMSSI-Metz
- First recruitments: June 2008
- First office building: Ecostart in Foetz
- First research projets:
  - Sept 2008: MICIE
  - Oct 2008: Bugyo beyond
- First service portfolio:



1. History

Learning to fly

- Auditing ISO 27001 for SNCH (2008)
- Developing new Business lines
- Engineering products:
  - APSARA (2010), TRICK tester (2013), TRICK light
  - Introduction of SCRUM for Software development
- Going to space:
  - Study, then proof-of-concept for secure Galileo localisation
- Working for European institutions:
  - CURIA Audit in 2008
  - Pentesting
  - Staffing (since: 2011)
- Preparing certifications (Euroscript, LuxCloud…)
- Moving to Niederanven (2012)

1. History

R&D projects

On-going projects

H2020 - ATENA: Advanced Tools to assEss and mitigate the criticality of ICT compoNents and their dependencies over Critical InfrAstructures

H2020 - bIoTope: Building an IoT OPen innovation Ecosystem for connected smart objects

MinEco - SmartGrid Luxembourg Cockpit: Real-time risk monitoring tool for critical infra.

FNR - IDS4ICS PhD on Intrusion Detection Sys. and Risk monitoring for Industrial Control Sys.

Former projects

FP7 - CockpitCI: Cybersecurity on SCADA: risk prediction, analysis and reaction tools for Critical Infrastructures

FP7 - TREsPASS: Technology-supported Risk Estimation by Predictive Assessment of Socio-technical Security

ITEA2 - DIAMONDS: Security Testing Tool development

ESA - LASP: Localisation Assurance Service Provider (POC)

FP7 - Liveline: Live ICT services Verified by EGNOS to find Lost Individuals in Emergency situations

FP7 - MICIE: Design of a risk prediction tool for interdependent Critical Infrastructures

CELTIC - BUGYO Beyond: Building security assurance in open infrastructure beyond

CIPS - SPARC: Space Awareness for Critical Infrastructures

FP7 - i-Going: i-GalileO indoor navigation (Galileo signal enabled by pseudolites for indoor navigation)

1. History > Important events

Cybersecurity attack on APT-1

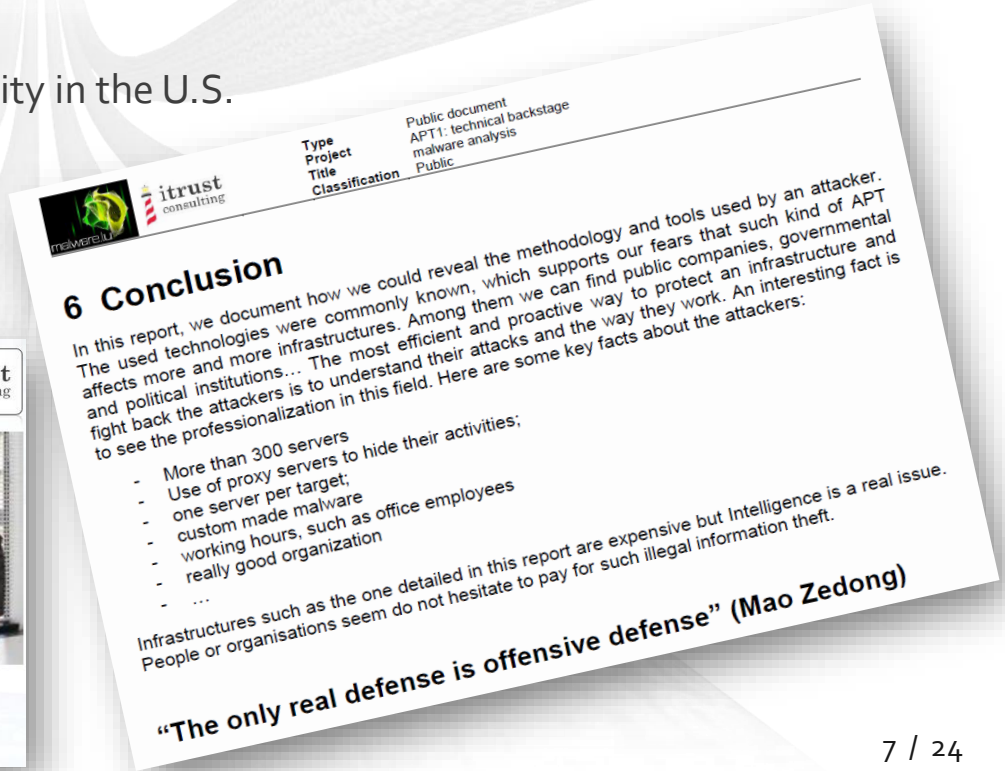
- Counterstrike by Hacker of itrust consulting against APT-1
- Technical report released with logo of itrust consulting
- Alerting of authorities 3 months before
- Discussion of legal constraints on cybersecurity in the U.S.
- No media coverage in LU
- Shift of activity/Customer

Luxembourg: The Steve McQueen of Cybersecurity Pourquoi?

- Article du 12 avril sur internet, par Stewart Baker, ancien « first Assistant Secretary » du US Department of Homeland Security sous George W. Bush
- Il publie une **interprétation politique** d'un article technique de **Paul Rascagnerès, itrust consulting**, du 8 avril 2013.

Stewart Baker conclut:

- "Now we owe a lot to Paul Rascagnères, though he seems to have treated the Justice Department's line the way Steve McQueen treated the fence in The Great Escape.
- Well, God bless him, he's showing us a new path to cybersecurity."



Type: Public document
Project: APT1: technical backstage
Title: malware analysis
Classification: Public

6 Conclusion

In this report, we document how we could reveal the methodology and tools used by an attacker. The used technologies were commonly known, which supports our fears that such kind of APT affects more and more infrastructures. Among them we can find public companies, governmental and political institutions… The most efficient and proactive way to protect an infrastructure and fight back the attackers is to understand their attacks and the way they work. An interesting fact is to see the professionalization in this field. Here are some key facts about the attackers:

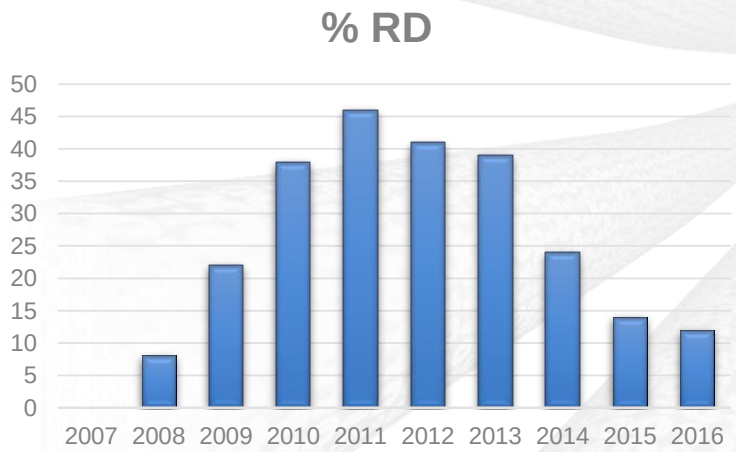
- More than 300 servers
- Use of proxy servers to hide their activities;
- one server per target;
- custom made malware
- working hours, such as office employees
- really good organization
- …

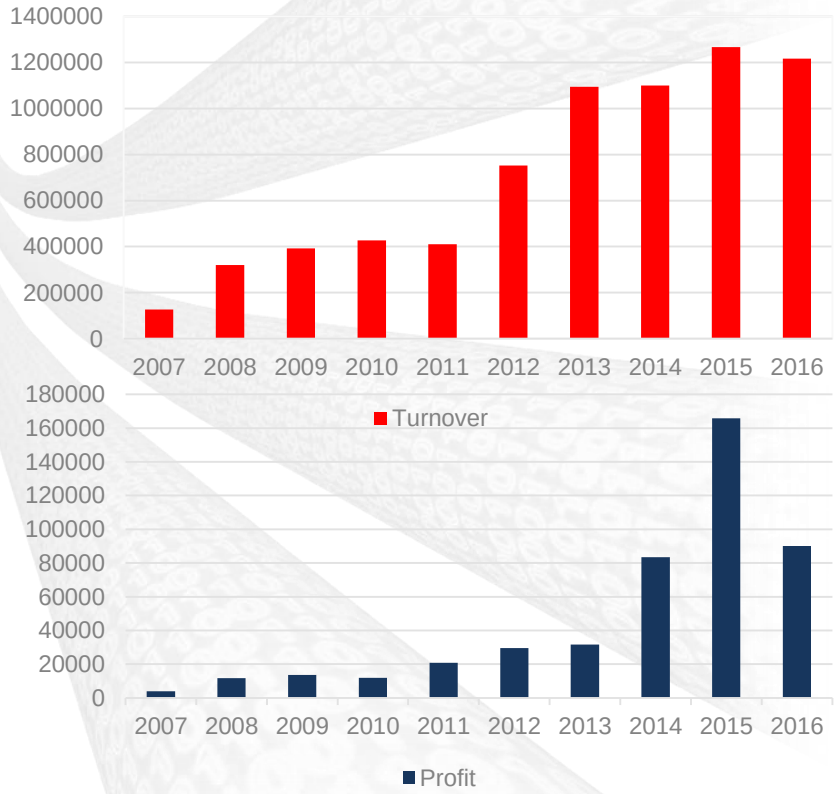
Infrastructures such as the one detailed in this report are expensive but Intelligence is a real issue. People or organisations seem do not hesitate to pay for such illegal information theft.

"The only real defense is offensive defense" (Mao Zedong)

1. History

A success story





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2. Out-of-the-Box Thinking

Tailoring information security to business requirements

- Security has to support the added value process,
- No documents, no risk assessment methodology fits all organisations, all cultures,
- Security is more a process, not a final state.

Combining R&D and Consulting

itrust consulting a mix of:

- the first research institution without base funding,
- a big-4-like consulting organisation,
- a technology-driven engineering company,

reduced to the size of a small company.

Interdisciplinarity beats competition

itrust consulting hired a team of very different experts that:

1. each have their own area of expertise,
2. are willing to work in a team,
3. work according to a common, but flexible methodology,
4. aim to create value for our customers,

No common job description,

Staff from 11 different nationalities

1. On Trust

Be certified before your customers ask it of you!

- Certification is the foundation of trust
- Be proactive, demonstrate that you knows your customers' needs before they do.

itrust consulting has just been certified ISO-27001

- We do what we ask of our customers.
- We demonstrate that this is feasible, even for a small organization, without requiring heavy, high-tech investment.

2. On Efficiency

Run a single management system!

- Most organisations have a silo management approach for managing their business
- Creating conflicts for influence, and inefficiencies
- ISO 27001 is the first management standard we implemented that replaced PDCA with a better structure:
- Extend this ISMS to cover other domains.

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3. On Effectiveness

Be prepared for disruptive changes!

The facts:

1. **Technological changes create new actors:** No horse equipment company built cars, Microsoft rose because computer manufactures did not build OS, …
2. **Political systems change fast:**
   - France took only one year to give an absolute majority to an unknown party,
   - US to lose reliability (the character of a single person has more influence than that decades of foreign policies).
3. **Political acceptance of technological changes:**
   - Merkel decides spontaneously to stop nuclear power plants as a reaction to Fukushima.

The questions:

- Are existing banks able to manage Fintech?
- Are existing car manufacturers struggling with CO_2 scandals able to dominate the eCar and autonomous driving market?
- Are current social network operators the leaders in the IoT?

4. On Flexibility

You don't decide!

- Be humble!
  - The market decides.
  - Your customer decides.

You have to adapt your service to the interested parties.

- Cybercrime will grow, spying will be omnipresent.

You can only help your customer to be prepared and provide reliable guidance.

3. Our services and solutions

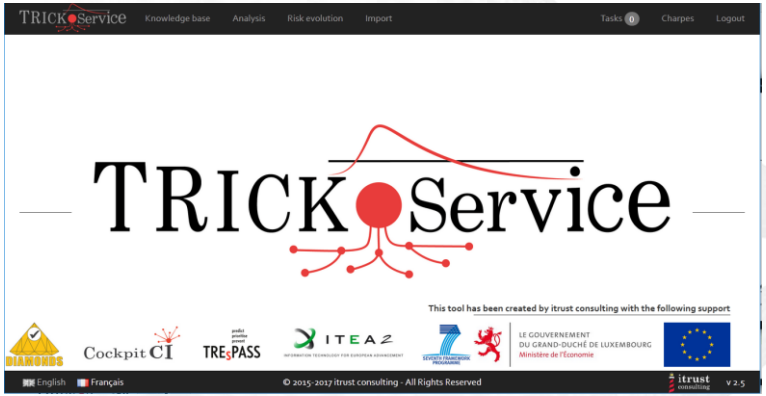
Integrated ISMS

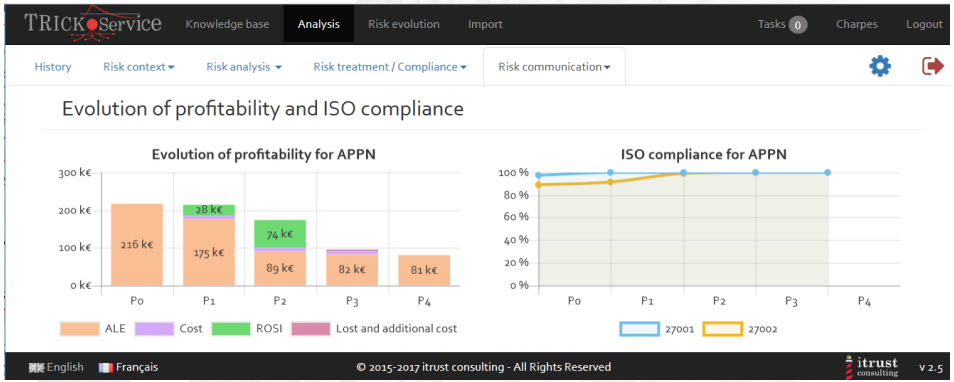
Information Security Management System

- We write your documents.
- We consult you to improve your management.
- We deliver you a set of 27001 compliant policies and procedures tailored to your needs.

TRICK Service

Tool for **R**isk management of an **I**SMS based on a **C**entral **K**nowledge base





1. Context & assets valuation (cf.2 7005, 29134)
2. Gap analysis (27002, 29151, 27552…;
3. Qualitatively assess threats, vulnerabilities, risks;
4. Quantified assessment of impacts and likelihoods;
5. Risk treatment plan, sorted by phases and ROSI;
6. DPIA compliant to GDPR, RAR compliant to CSSF.

SECurity as a Service (SECaaS)

A security fit for you

A swiss knife for your security

A customised service to implement a monitoring service adapted to the needs and budget of your company, by realising specific security sourcing missions. itrust provides mentoring or technical implementation missions on a one-off or regular basis onsite at your organisation.

Pool of competencies related to security

For a SME, implementing, maintaining and improving the security level of its organisation is a hard job: lack of time, lack of competencies or methodologies.
It is better to base your effort on a security team already trained rather to get the entire security work in addition to the core business.

Total flexibility

- Onsite or remotely
- Adapted to customers' responsibility org-chart and to their type of management
- itrust expertise resource as an internal service for you
- Control of cost and budget for defined objectives

itrust consulting operates CSIRT Services

malware.lu CERT

CERT: Computer Emergency Response Team

- Incident Response
- Forensic Investigation
- Malware Analysis
- R&D
- Participation to international conferences (Defcon Las Vegas, hack.lu)
- Knowledge transfer (APT1: technical backstage)

itrust consulting CERT respects the incident-handling guidelines provided by NIST:

- Preparation
- Identification
- Containment
- Eradication
- Recovery
- Follow-up

What we learned operating a CERT

- a lot on threats and malware,
- that in the future, all organisations SHALL manage how to react to security incidents, i.e., have CERTs as partners / subcontractors.

Ethical Hacking

- Penetration tests
- Vulnerability Assessment
- External Vulnerability Scans

Security Solutions for your ICT

Pseudonymisation

- EPSTAN TTP, high data protection when assessing the quality of our schools

Security design for the Internet of Things

- Lightweight cryptography solutions
- Privacy-protecting policies
- Pseudonymisation

Critical infrastructure protection

- From TRICK Service to TRICK Cockpit (Risk Monitoring)
- ICS SCADA
- Vulnerability Management System
- Multi-antivirus platform AVCaesar

Conclusion

Our new slogan

To summarise our ideas in a single way, we complement:

Tailoring information security to business requirements

with

itrust
consulting

Move securely within the cyberworld

Thank you for your attention