Symantec.

Towards a Certification Framework for Cybersecurity

European Parliament

ITRE Public Hearing, November 27th, 2017

Ilias Chantzos

Senior Director Government Affairs EMEA-APJ

Global Leader In Cybersecurity

What We Do

- Software
- Cloud services
- Managed services
- Appliances
- Research
- PPP

Who We Protect

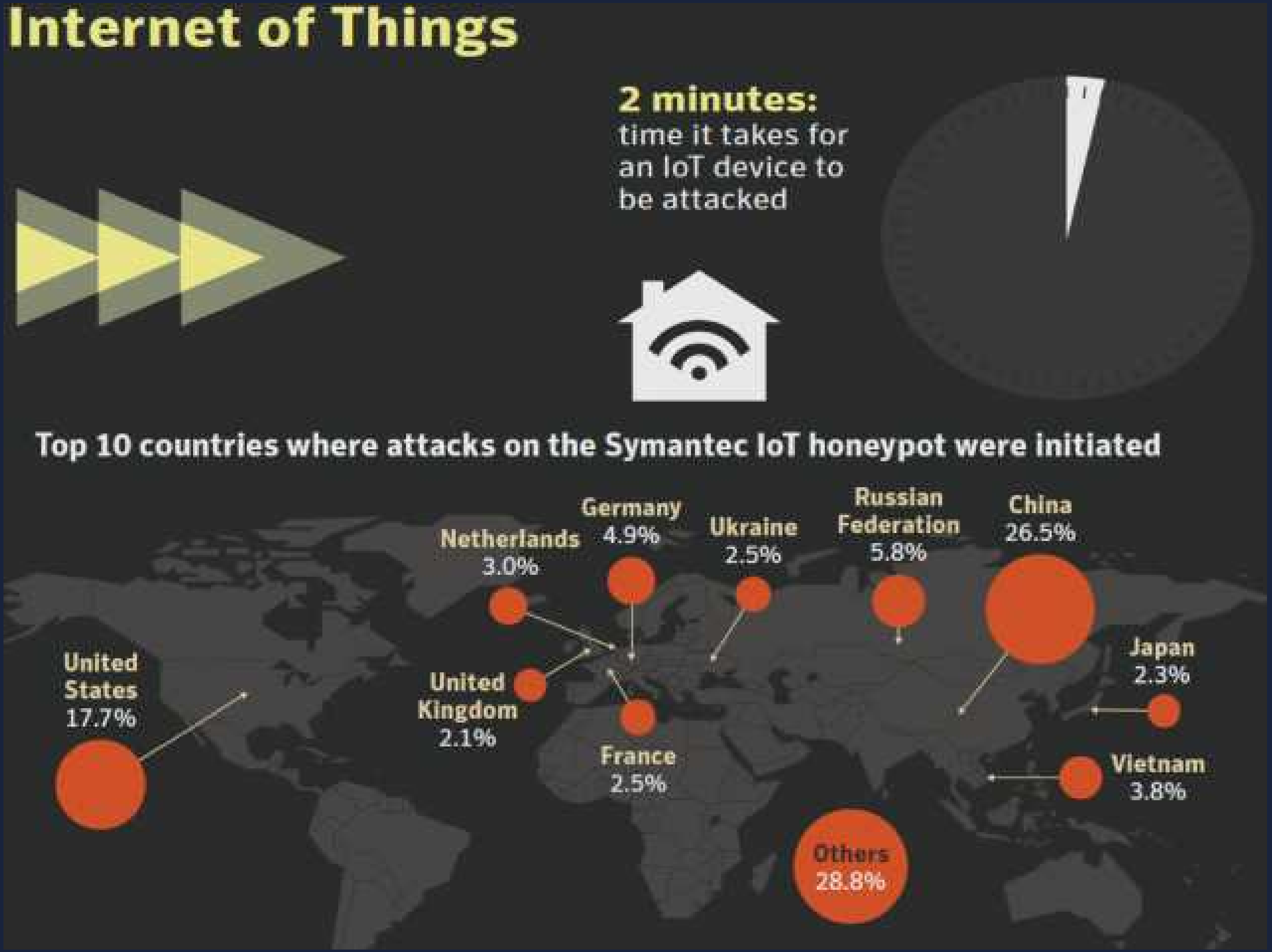
- Government
- Critical Infrastructure
- Large Enterprise
- SMB
- Consumer

Who We Work With

- CERT-EU
- ENISA
- Europol EC3
- NATO NCIA
- Member States

The Internet of Things is a prime hacking target

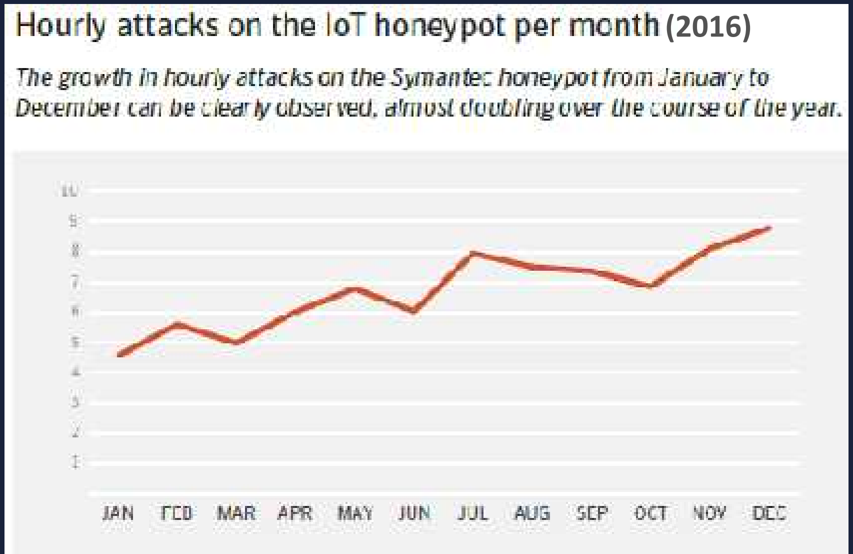
IoT Security: Fast Moving Target + Global Challenge



Internet of Things

2 minutes: time it takes for an IoT device to be attacked

Top 10 countries where attacks on the Symantec IoT honeypot were initiated



Hourly attacks on the IoT honeypot per month (2016)

The growth in hourly attacks on the Symantec honeypot from January to December can be clearly observed, almost doubling over the course of the year.

IoT security is NOT like PC

PC		IoT
“Open” Easy to install	*Openness*	**“Closed”** Not open to new software after device leaves factory
“3” (Mostly UDP, TCP, IP)	*Protocols*	**Thousands of Protocols** (Hundreds in each vertical)
“5” (Mostly Windows, Linux, OSX, iOS, Android)	*Operating Systems* *(OS)*	**Dozens** (Heavily fragmented by vertical)
20k seat enterprise (Typical Enterprise)	*Scale*	**100M “things”** (Typical Car Maker)
All verticals have **same** Hardware/OS supply chain	*Fragmentation*	Each verticals has **different** Hardware/OS supply chain
“2” X86 and x64 by Intel and AMD	*Chipset Architectures*	**Many** 8bit AVR,16bit MCU,32/64bit ARM,x86/64;12+vendors

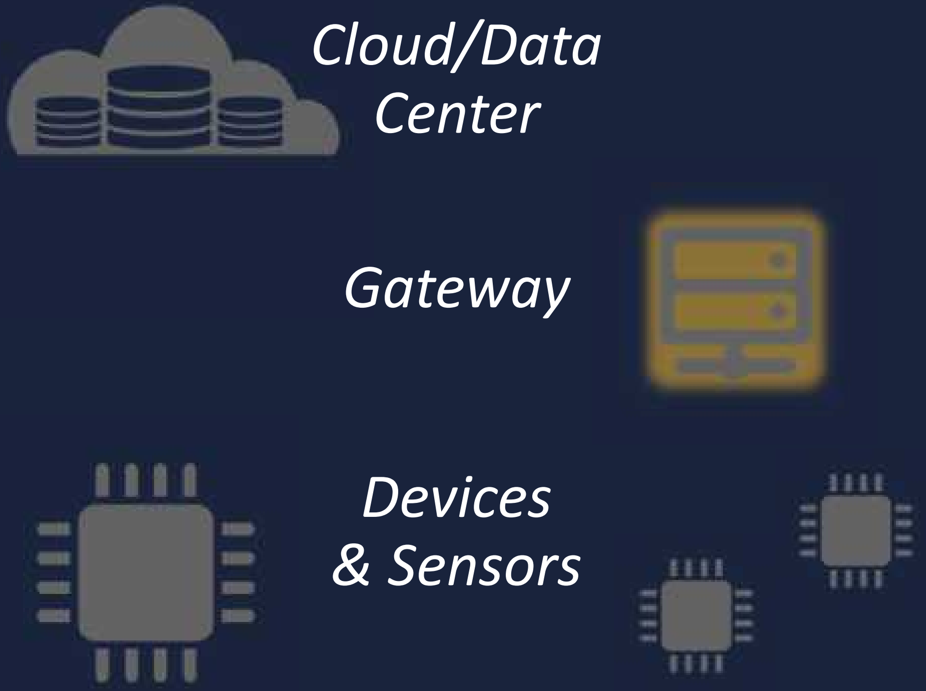
Therefore IoT security has to be different than PC

Manage Devices

Safely & Effectively managing IoT

Understand Your System

Know what to trust
IoT Security Analytics



Cloud/Data Center

Gateway

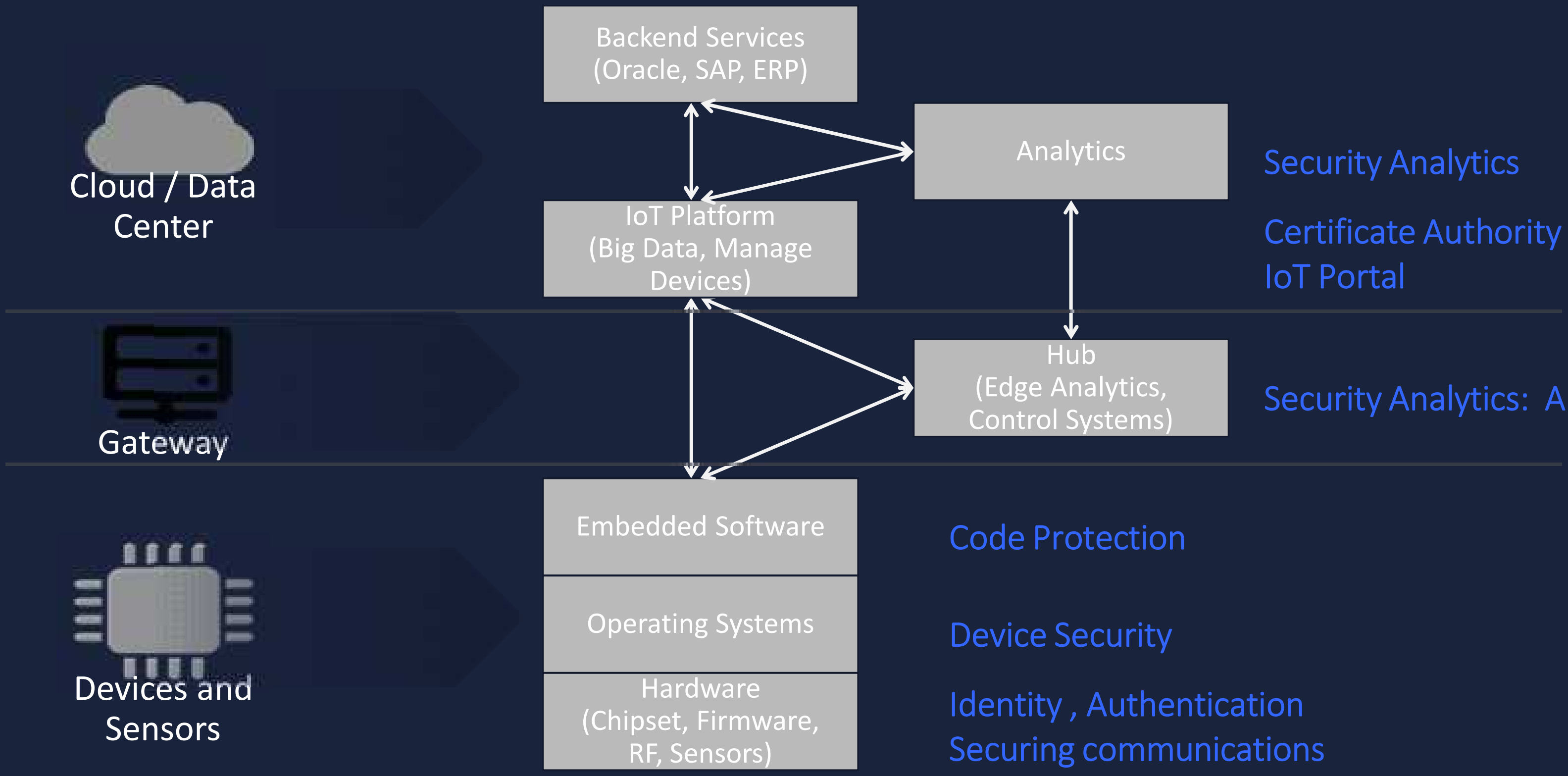
Devices & Sensors

Protect the code that drives IoT
Host Based Protection

Protect the Device

A strong IoT trust model

Protect the Communications


Cloud / Data Center
Gateway
Devices and Sensors
Backend Services (Oracle, SAP, ERP)
Analytics
IoT Platform (Big Data, Manage Devices)
Hub (Edge Analytics, Control Systems)
Embedded Software
Operating Systems
Hardware (Chipset, Firmware, RF, Sensors)

Security Analytics

Certificate Authority
IoT Portal

Security Analytics: Anomaly Detection

Code Protection

Device Security

Identity , Authentication
Securing communications

Is there a need for cybersecurity certification?

- **Does the market fail to address cybersecurity in IoT space?**

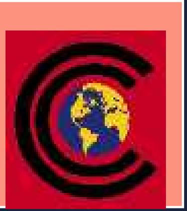
In some segments, definitely.

- ➢ Consumer goods
- ➢ Legacy systems
- ➢ Products designed without security-by-design

- **Can voluntary certification work?**

Only if there's a market for it.

- ➢ Positive business case for vendors, not bureaucracy
- ➢ Clear assurance for users, not confusion
- ➢ True Single Market, not national fragmentation



- **Are we moving in that direction?**

No

- ➢ ePrivacy as voted by the EP reduces IoT security
- ➢ Unclear what needs to be certified, why or what is even possible/suitable
- ➢ Different roles for different players (device manufacturers, software, infrastructure)

Future Of Cybersecurity Starts Today

- **IoT security will not work in the traditional way. It needs to be:**
  - Extremely large scale
  - Network-managed and automated
  - Mobile and context adaptive
  - Close to real time
- **Certification can help, provided it is:**
  - Voluntary on the basis of an identified need
  - Market/Operations driven
  - Capability based
  - Outcome oriented
  - Internationally compatible
- **Advisable policy objectives:**
  - Technology neutral requirements adapted for different product categories and use cases
  - Private sector involvement in the governance of the framework
  - Member State commitment to the Single Market principle
  - Model existing regulations (e.g. eIDAS)
  - Strong role for ENISA

Thank You!

Ilias Chantzos
Ilias_Chantzos@symantec.com