e-BUSINESS & SOCIAL MEDIA WORLD CONFERENCE 2018

SECURITY, PERFORMANCE AND GDPR COMPLIANCE MANAGEMENT

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Few words about us

DEVOQ Technology

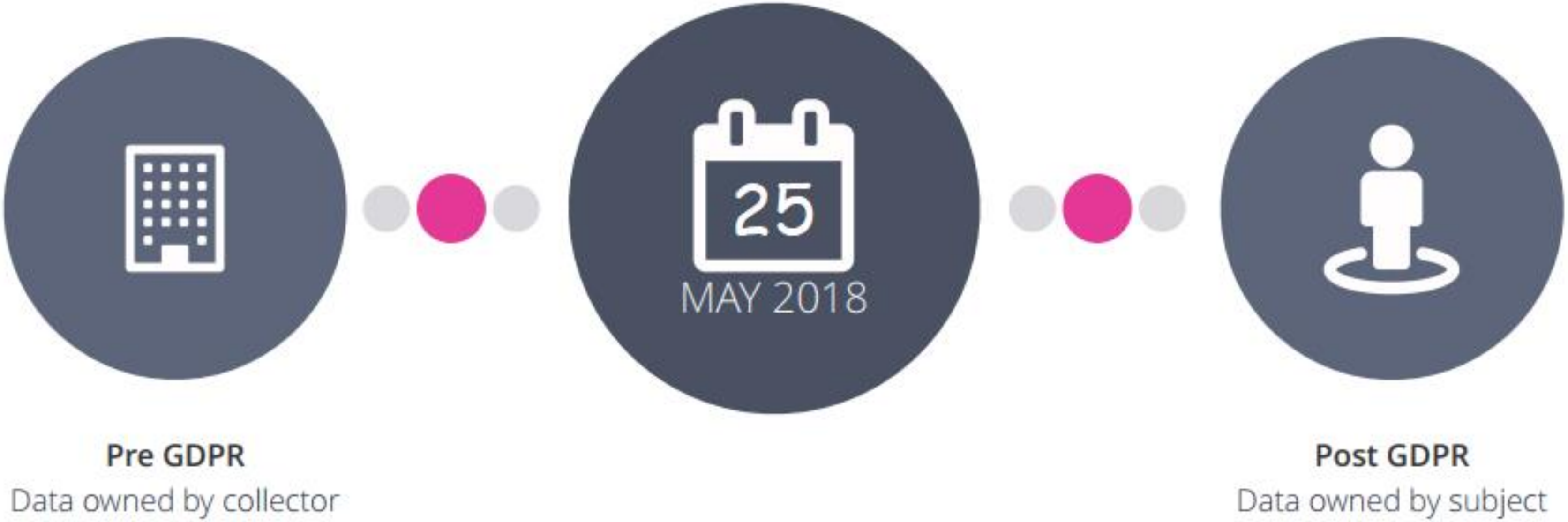
Started on 2014
Telecom background, 15 years of experience

- Cyber Security Engineering
- Security Consulting & Audits
- Penetration Testing

Small team, technically focused

General Data Protection Regulation

Fundamental change of data ownership



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MAY 2018

Pre GDPR
Data owned by collector

Post GDPR
Data owned by subject

GDPR: Technical and organizational measures

- Organizational: e.g. limiting the number of people who can access personal data
- Technical: e.g. use encryption to protect accidental data loss

GDPR: Technical and organizational measures

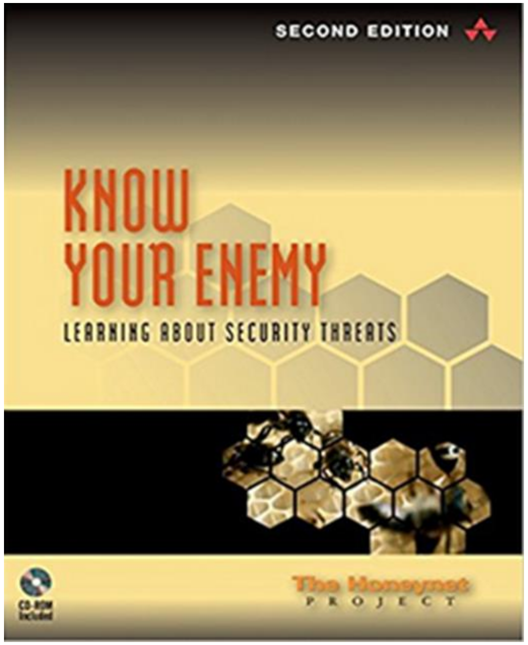
- Ensure that the chance of a data breach is minimized
- Ensure that data is kept safe

Does not mandate the exact security measures

Problem definition – Data breach

Hacking for:

- Fun
- Profit
- Vandalism
- Information leakage
- State sponsored



Know your enemy

How is a data breach possible?

Vulnerabilities: A weakness allowing an attacker to reduce a system's information assurance.

Human error

Usually a software bug:

Software bugs

- Not a new problem

- 1996: European Space Agency’s 1 Billion USD prototype rocket “Ariane 5” crashed because of a software bug on the onboard computer.
- 2014 Toyota recalls 600K Prius cars because of a software bug shutting down the engine.

Vulnerabilities exploit software bugs

Data Breach Examples

Yahoo (2013): 3 billion user accounts (was thought initially to be 1 billion)

- Names
- Dates of birth
- Email addresses
- Security questions and answers
- Weakly protected passwords

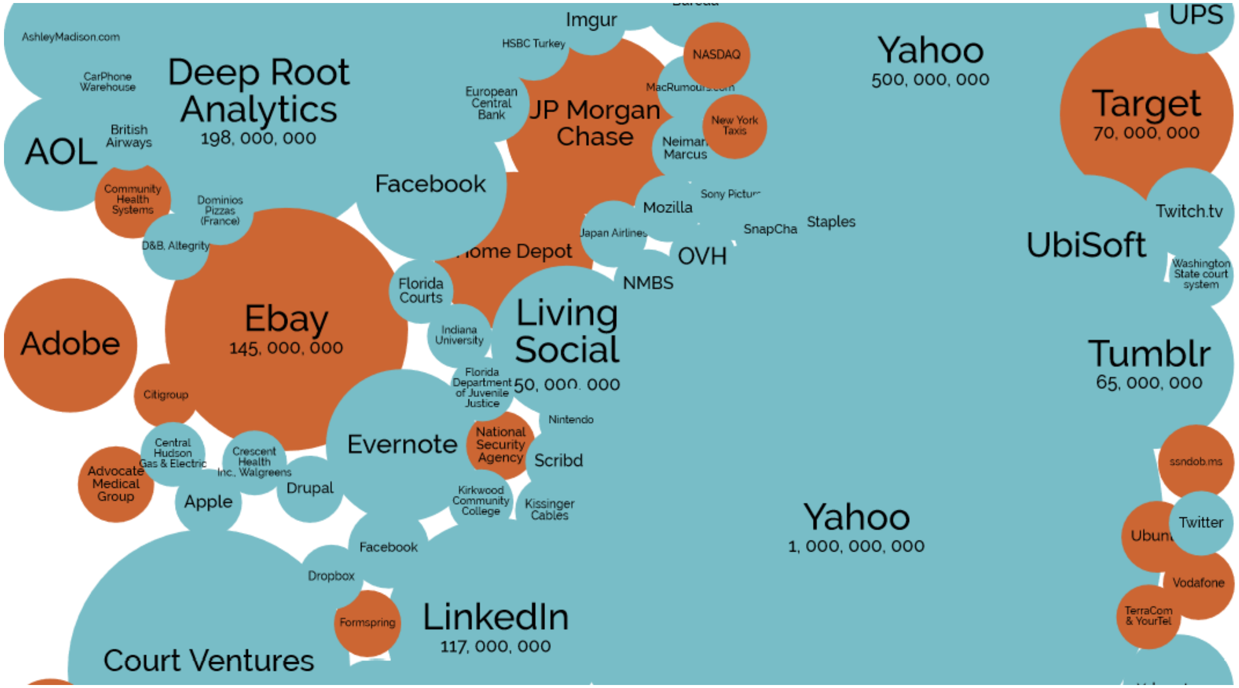
Took years to discover!

Data Breach Examples

- FriendFinder (2016): 412 million accounts
- MySpace (date unknown): 360 million accounts
- LinkedIn (2012): 165 million accounts
- Playstation Network (2011): 102 million accounts
- Dropbox (2012): 68 million accounts

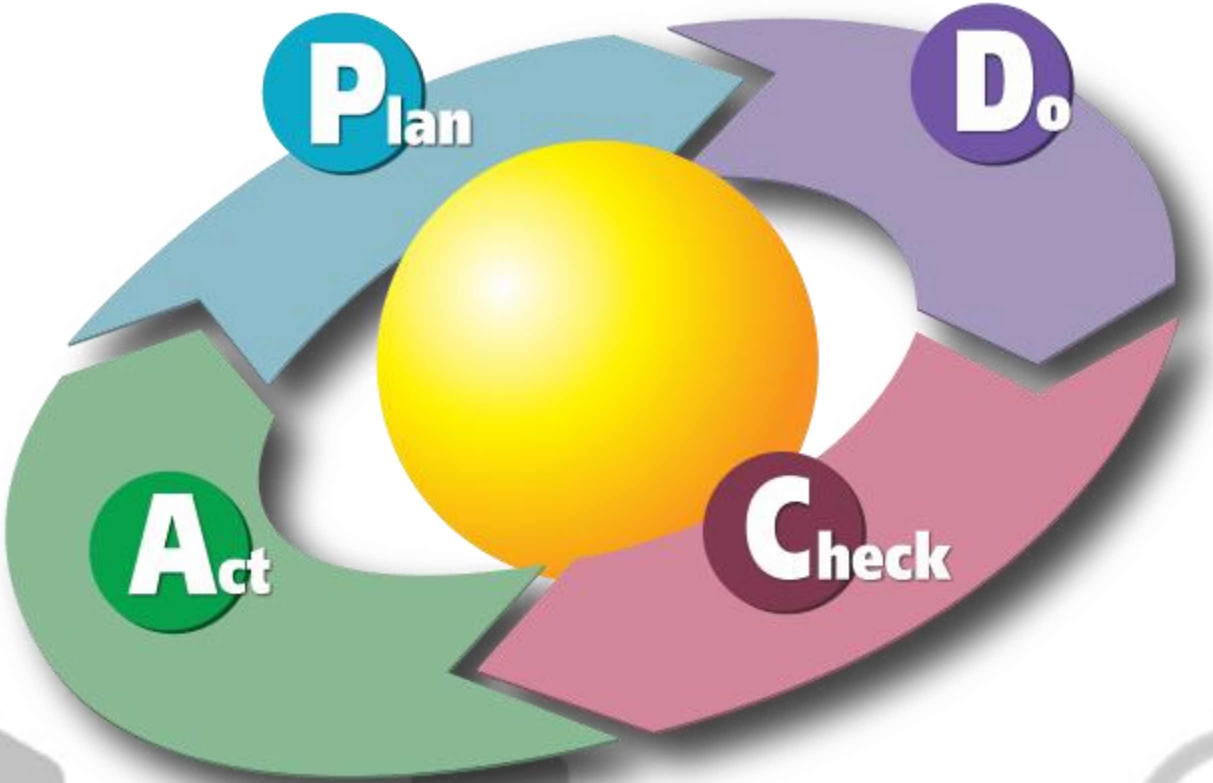
LinkedIn breach prompted Netflix to take actions (change matching passwords)

Data Breach Examples



http://www.informationisbeautiful.net/visualizations/worlds-biggest-data-breaches-hacks/

What to do



Plan

- Security policies and procedures
- Architecture diagrams
- IT inventory
- Workflows & ticketing

Do

- Physical access (e.g. access cards)
- Logical access (e.g. user directory)
- Remote access (e.g. VPNs)
- Network security/Firewalls
- Antivirus/Sandbox
- Redundant systems
- Hardening
- Backups
- Data Classification, Data Loss Prevention
- Logging & monitoring

Check

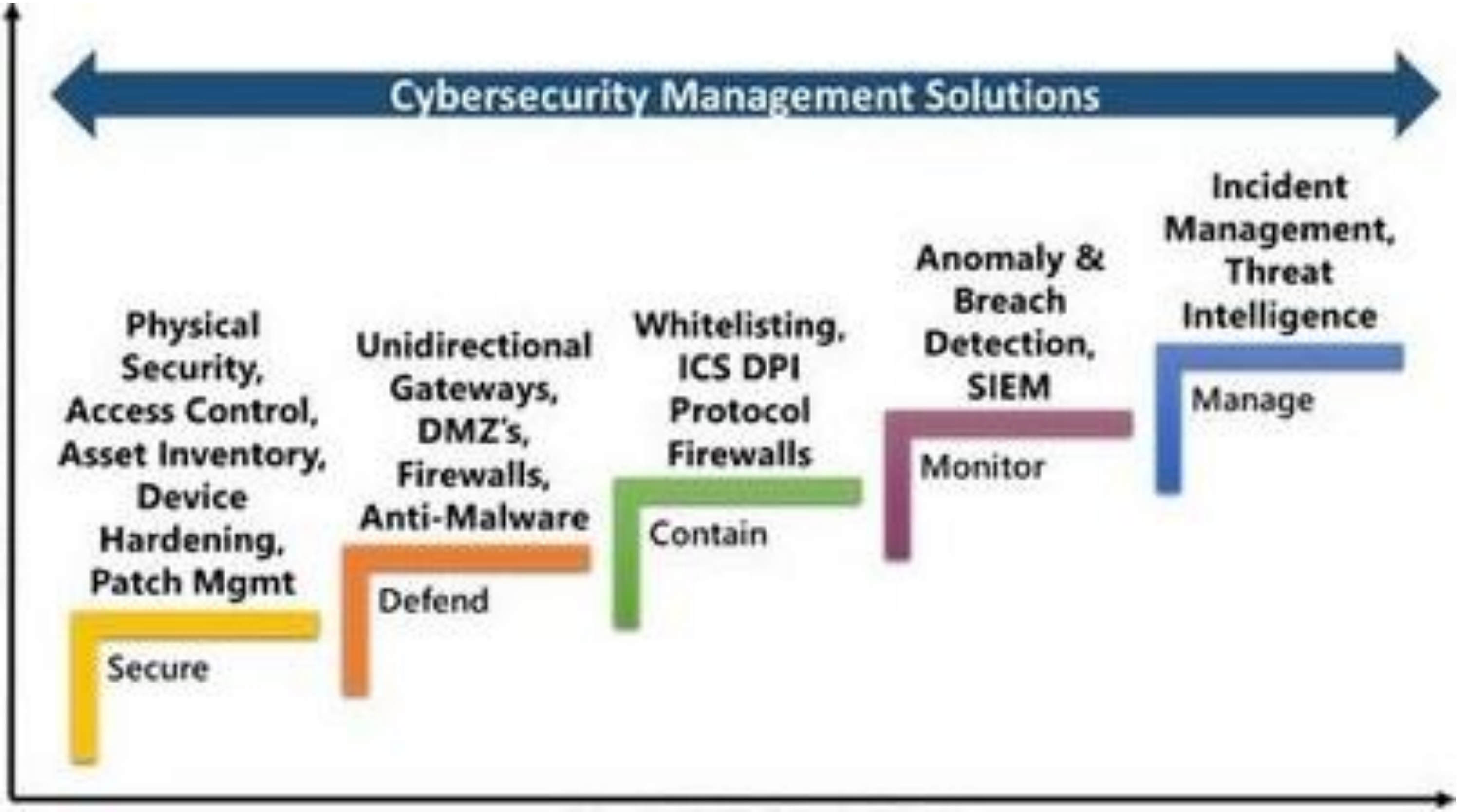
- Regular audits
- Gap analysis
- Vulnerability/penetration tests

Act

- Information security officer
- Information security department
- External consultants / experts

… and Data Protection Officer

Organization maturity



Cybersecurity Management Solutions

Physical Security, Access Control, Asset Inventory, Device Hardening, Patch Mgmt

Secure

Unidirectional Gateways, DMZ's, Firewalls, Anti-Malware

Defend

Whitelisting, ICS DPI Protocol Firewalls

Contain

Anomaly & Breach Detection, SIEM

Monitor

Incident Management, Threat Intelligence

Manage

Incident handling

- Communication plan (72 hours or without undue delay)
- Policies, procedures, key personnel
- Diagnosis, Escalation, Investigation, Resolution
- Automated system if possible

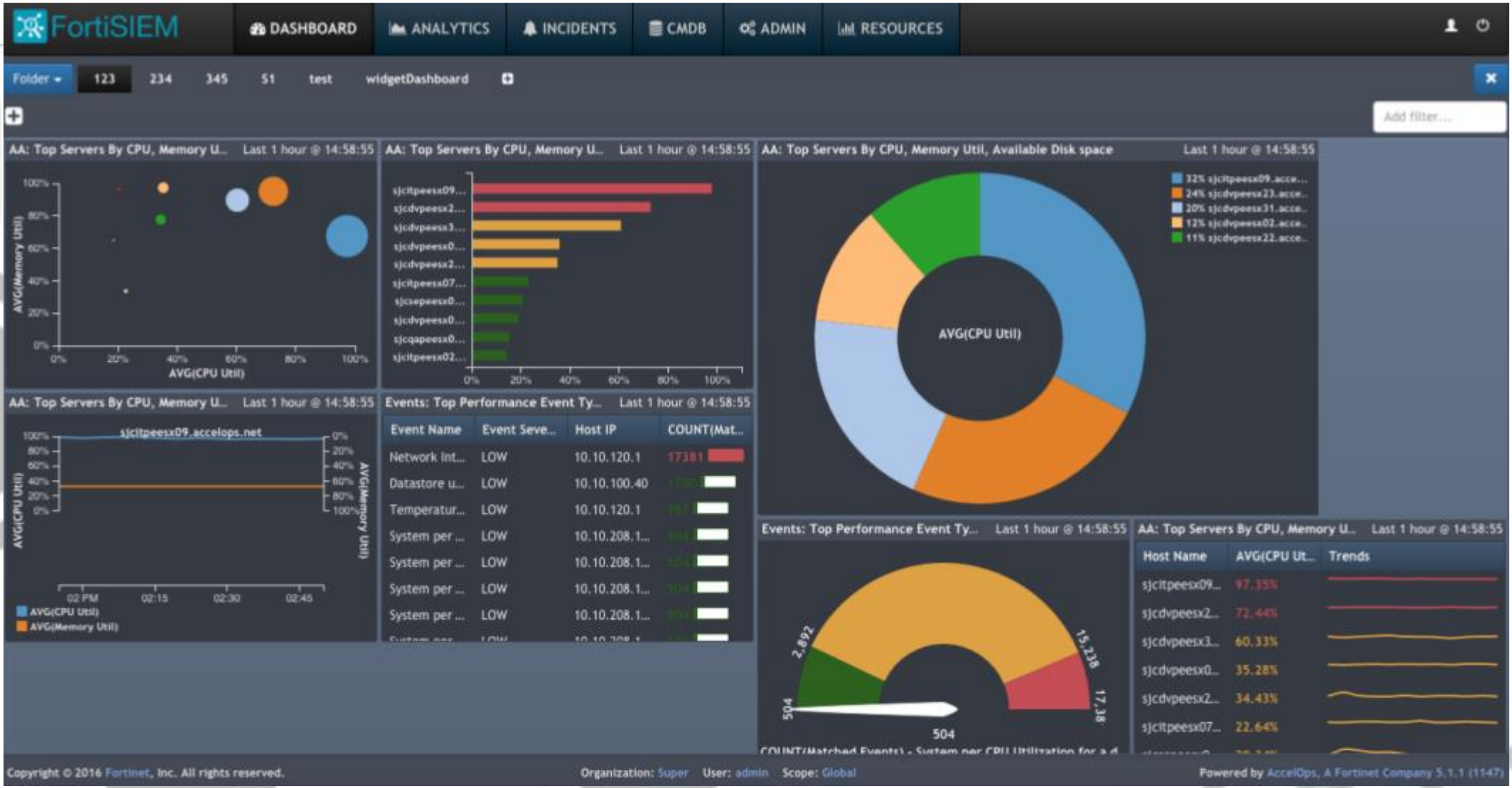
Be able to demonstrate that appropriate security controls were in place

Incident handling

- Quick response can limit the exposure
- Unified threat detection controls can provide the speed required
- Infrastructure & Security monitoring is important

Audit logs and investigation will determine if reporting is required under GDPR

Infrastructure & Security monitoring



Events: Top Performance Event Ty... Last 1 hour @ 14:58:55

Event Name	Event Seve...	Host IP	COUNT(Mat...
Network Int...	LOW	10.10.120.1	17381
Datastore u...	LOW	10.10.100.40	[illegible]
Temperatur...	LOW	10.10.120.1	[illegible]
System per ...	LOW	10.10.208.1...	504
System per ...	LOW	10.10.208.1...	504
System per ...	LOW	10.10.208.1...	504
System per ...	LOW	10.10.208.1...	504

AA: Top Servers By CPU, Memory U... Last 1 hour @ 14:58:55

Host Name	AVG(CPU Ut...	Trends
sjcitpeesx09...	97.35%	
sjcdvpeesx2...	72.44%	
sjcdvpeesx3...	60.33%	
sjcdvpeesx0...	35.28%	
sjcdvpeesx2...	34.43%	
sjcitpeesx07...	22.64%	

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Infrastructure & Security monitoring

- Real-Time Analytics
- Security and Compliance
- Single Pane of Glass
- Performance monitoring

Automation

Best practices

- ISO 27000, international standard with worldwide recognition, applies to any organization
- PCI-DSS, data security for the credit card industry, usually obligatory

Security standards already exist

ISO 27000

- International Standards Organization
- Corporate security standard
- Originally donated by Shell to a UK government initiative in the early 1990s
- C-I-A Principle
  - Confidentiality (unauthorized disclosure)
  - Integrity (accuracy of data)
  - Availability (available when needed)

ISO 27000

- Information security policies
- Asset management
- Physical security
- Communications security
- Access control
- Incident management
- Business continuity

ISO 27000

- Operational security
  - Change management
  - Malware protection
  - Backup
  - Logging
  - Monitoring
  - Vulnerability management

PCI-DSS

- Payment Card Industry Data Security Standard
- Five different policies aligned to create 2004 PCI version 1.0
  - VISA cardholder information security program
  - MasterCard site data protection
  - American Express data security operating policy
  - Discover information security and compliance
  - JCB data security program

PCI-DSS

- Build and maintain a secure network and systems
- Protect cardholder data
- Maintain a vulnerability management program
- Implement strong access control measures
- Regularly monitor and test networks
- Maintain an information security policy

Many similarities with ISO 27000

DEVOQ
TECHNOLOGY

IT Manager: Do you know a good GDPR specialist?
IT Consultant: Yes, in fact I do!
IT Manager: Can you give me his email?
IT Consultant: No…

Thank you