# Securing the Future of IT

## The Digital Transformation and its Impact

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# A Journey Into The Present

Digital transformation of businesses and the world

Implications on the protection of infrastructures

- Securing The Cloud
- Securing The Things
- Digital Transformation of Crime
- Securing against Advanced Threats

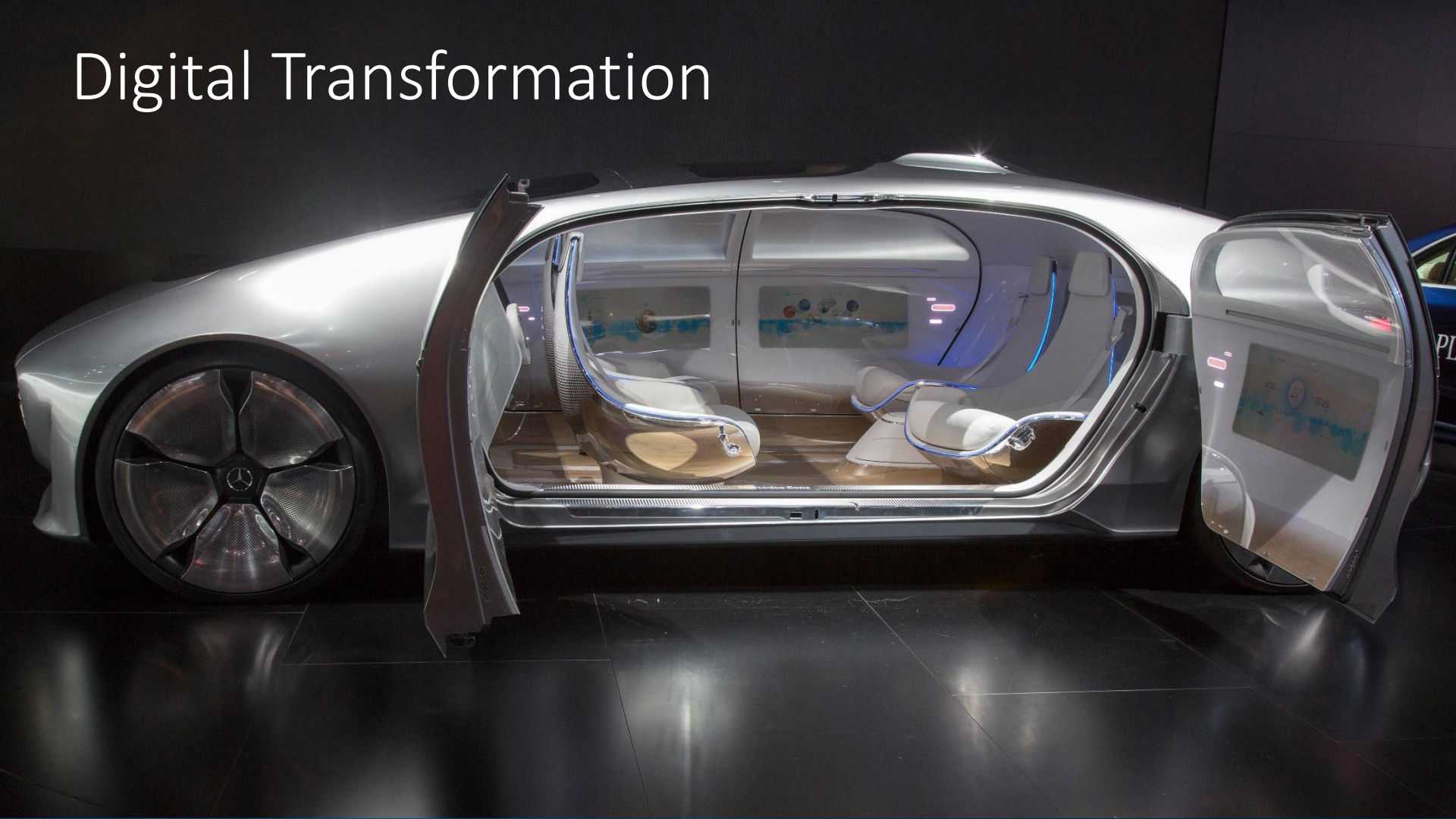

# Digital Transformation

In 2016?

# Smart Cities

# Smart Cities

# Digital Transformation



# Digital Transformation

# Digital Transformation

SUPERMARKETS…

# Digital Transformation

Thesis 1

IT will move into the CEO’s responsibility away from the CFO

# Digital Transformation

## Consequences for IT infrastructure

- Location of users, data, and applications do not matter anymore
- Everyone and everything will be everywhere and permanently moving

# Digital Transformation

Thesis 2

Stability of location will disappear for IT security.

Security must be everywhere, just like IT components.

# Digital Transformation – Essence

# Digital Transformation – Essence

# Implications on Infrastructure Protection

Cloud

Things

Crime

Threats

# Implications on Infrastructure Protection

Cloud

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# Why Cloud At All?

So much more flexible, elastic, and agile

# Challenge

Will cloud-based infrastructures ever be as secure as on-premises ones?

# Cloud

Thesis 3

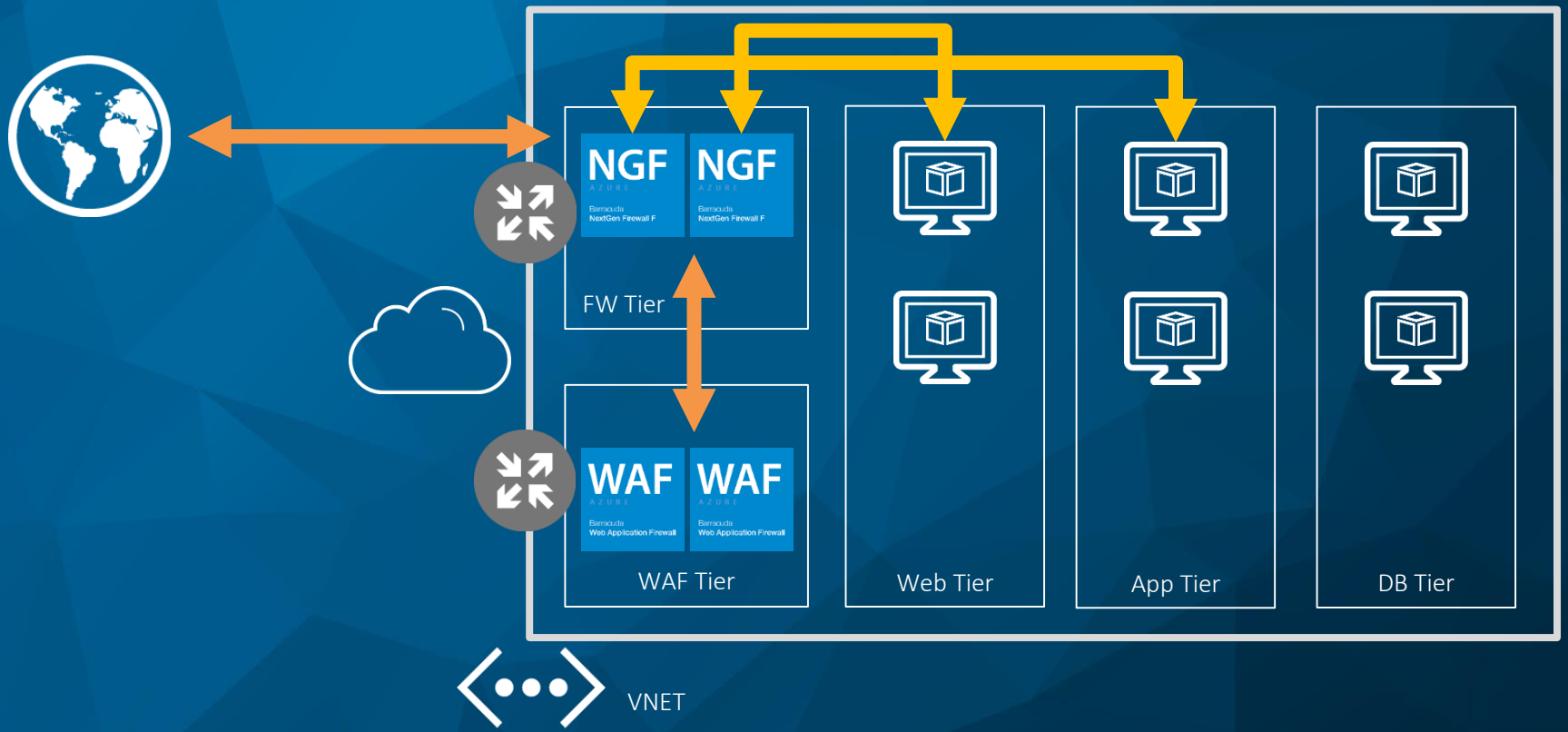
Cloud-based infrastructures can be MORE secure than on-premises ones!

# Cloud

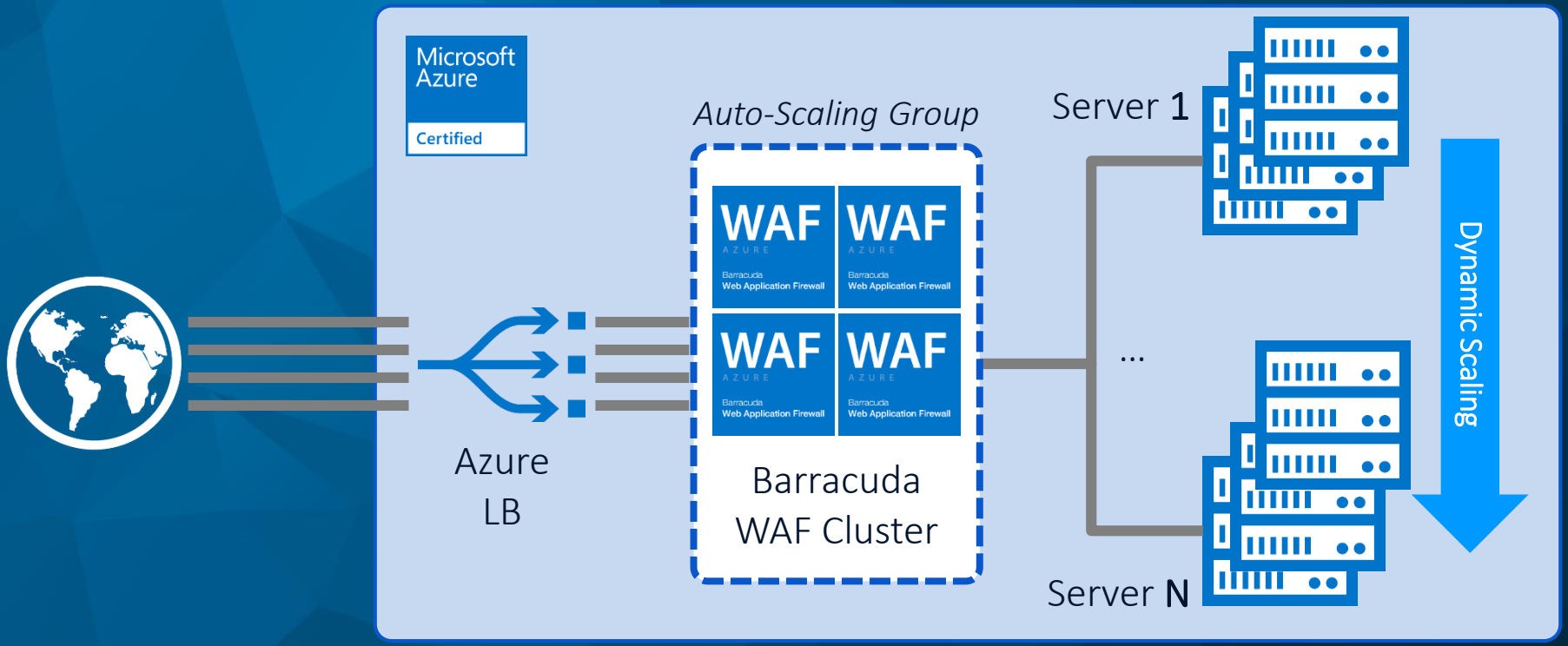
## Turn the “weakness” into strength

- Make use of the agility and flexibility for security measures
- Auto-scaling includes auto-firewalling
- All development and testing environments can have fully-fledged security
- Backup and restore at amazing speed

# Deploying Multi-Tier Network Architectures



# Dynamic Scaling; It's Different in the Cloud



# Cloud – Essence

# Implications on Infrastructure Protection

Cloud

Things

Crime

Threats

# Security of Things

# Security of Things

# Security of Things

# Größenabschätzungen für IoT

## 4 Billionen EUR

umfasst die Wertschöpfung mit IoT-Einsatz

## 50 Milliarden Dinge

(nicht Menschen) werden 2020 Internetverbindung haben (8 Milliarden in 2014)

*Source: Cisco Whitepaper, Embracing the Internet of Everything To Capture Your of $14.4 Trillion 2013, p15*

# Risikofaktoren

## Business und Organisatorische Risiken

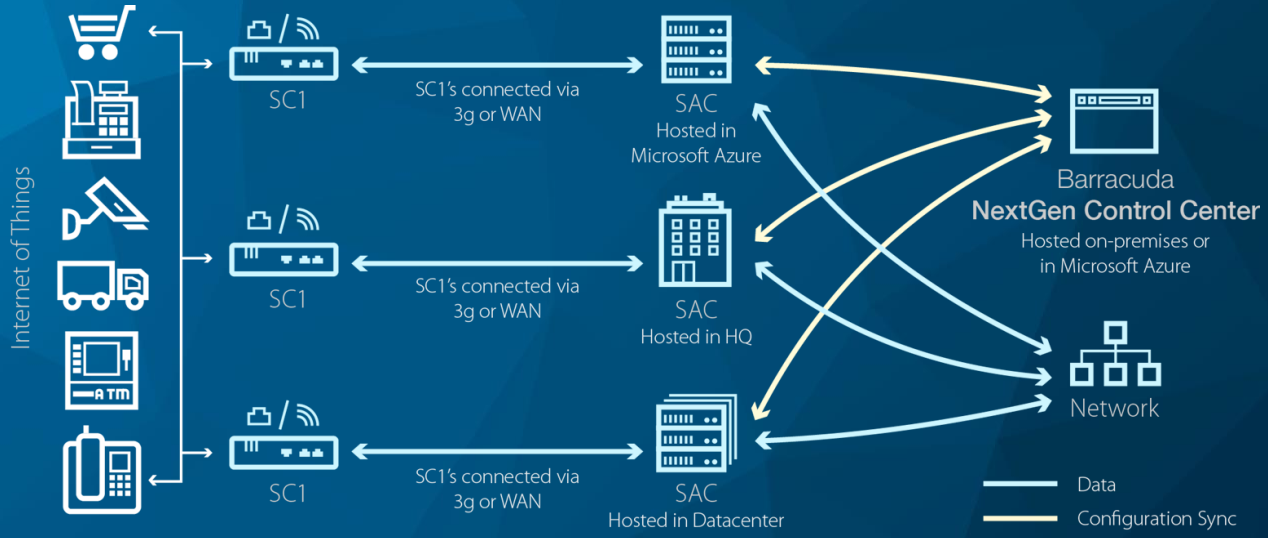
## Gute alte IT Security Traditionen

- Der Versuch und Irrtum Ansatz – ist im kleinen gefährlich, im Großen tödlich
- Schlampigkeit als Prinzip, Security als Zufall
- Reaktives Security Modell („Schau mer moi“)

## Unterschätzte Elemente

- Die schiere Größe macht die obigen Ansätze zu echten Problemen

# Barracuda Secure Connectivity Appliance (SC1)




# Lessons Learned

## Viele Szenarien, aber auch Gemeinsamkeiten

- Erhalt des privaten, nachweisbar internen Netzwerks
- Viele brauchen Hub für Kommunikation zu Kontrollinstanz (Datacenter)
- Deep inspection notwendig, aber nicht bei Maschine selbst

## Existierende Firewalls sind oft nicht das Richtige

- Die skalierbare Architektur zählt, nicht nur das Gehäuse

## Betriebskosten sind alles

- Zehntausend sind viel mehr als zehn. Viel mehr.

# Things

## Thesis 4

There will be more firewalls than iPads

# Things – Essence

# Implications on Infrastructure Protection

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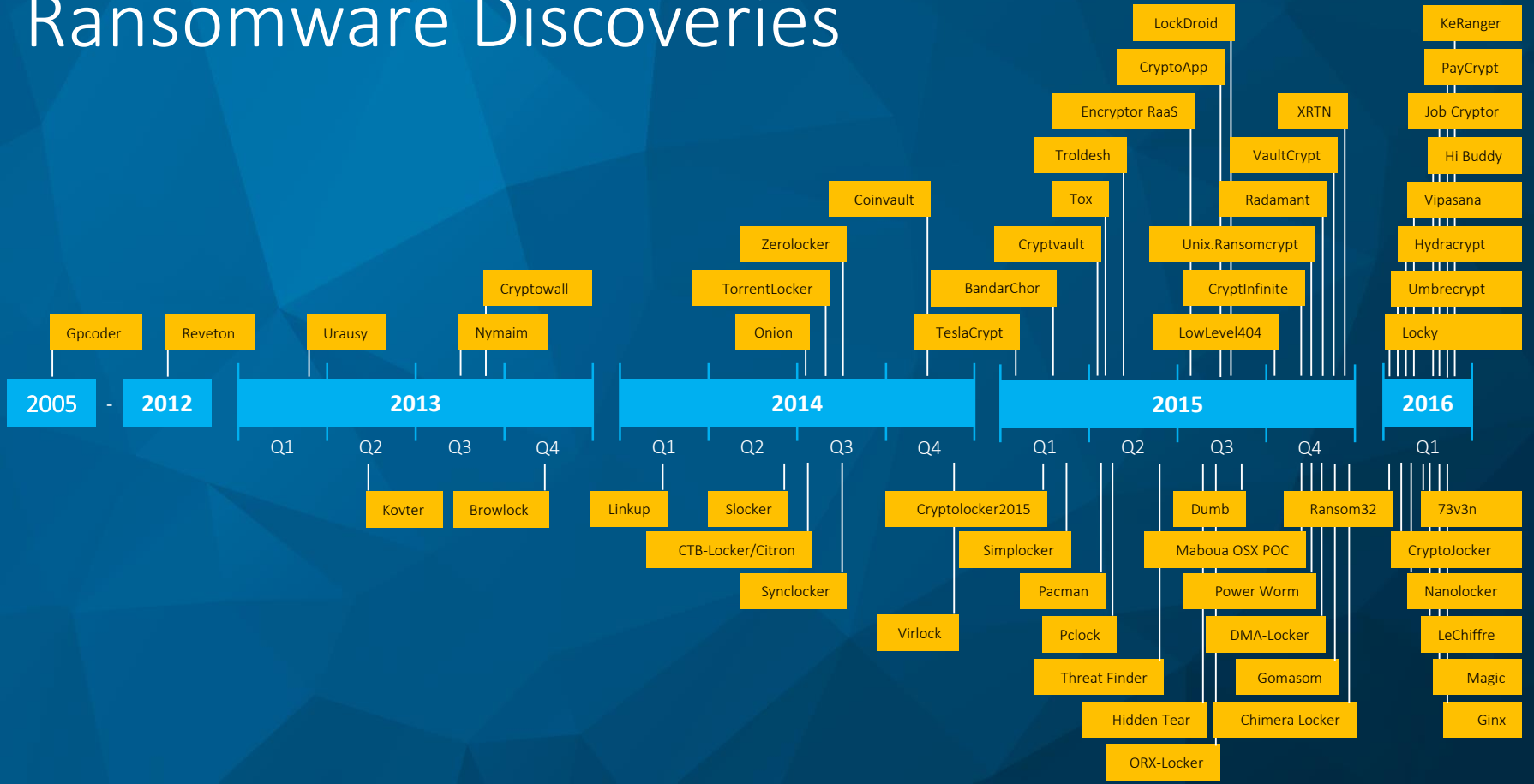
Crime?


Crime!

# Ransomware Discoveries



# Digital Transformation of Crime

| | Technical Skills | Criminal Skills |
|---|---|---|
| Hacking | High | Medium |
| Advanced Threats | High | High |
| Ransomware | Medium | High |
| President‘s Fraud | Low | High |

# Digital Transformation of Crime

Thesis 5

No criminalization of digital business
BUT: Digital transformation of criminal business

# Crime – Consequences

Know your attack surface

Seal your attack surface

# Crime – Essence

# Implications on Infrastructure Protection

Cloud

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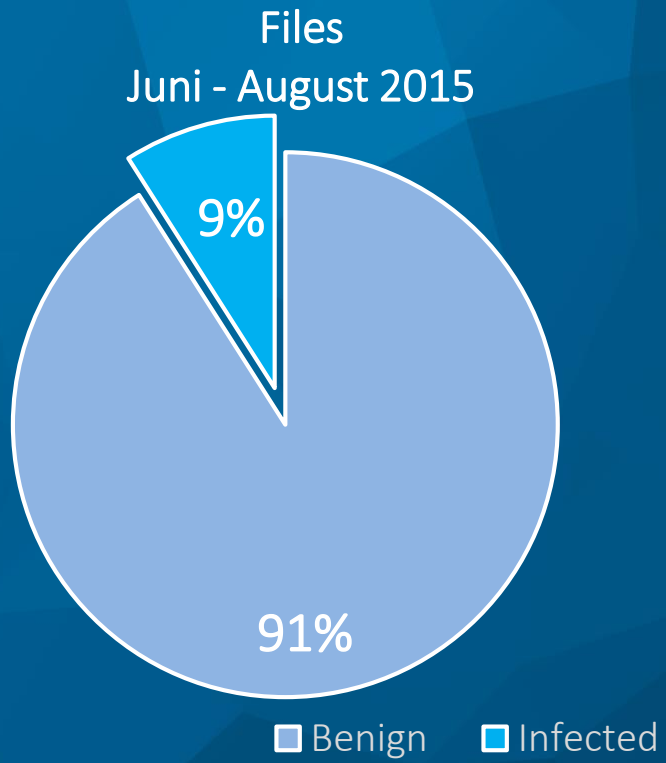
# New Major Threat Vectors

Advanced Threats

Ransomware

# Behind the Scenes – Advanced Threats





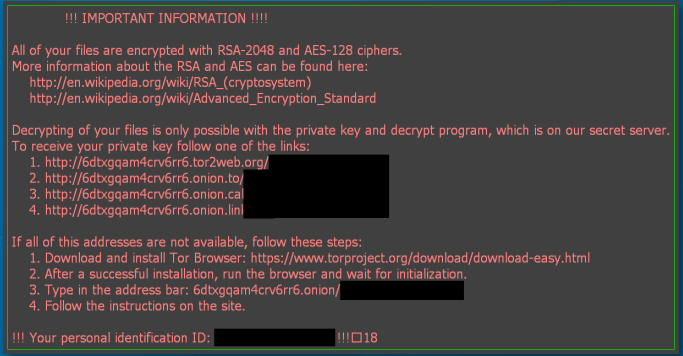
*Source: Barracuda Networks*

# Phishing Facts – Awareness works !?

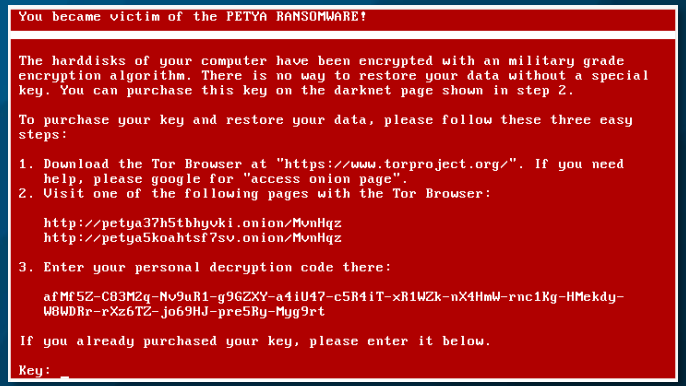
**23%** Of all users open phishing mail

**11%** Of all users blindly open attachments

# The Dangerous Ones - Cryptolocker





# Threats – Essence

# What to Remember

# IT will move from CFO to CEO

# IT will become de-localized

# Cloud-based IT will be more secure than on-premises (if you want to)

“Things” will multiply the number of firewalls

# Digital transformation of crime

# Firewalls, Email-Security, Backup are the Secure Trinity

# Essence

# Thank You

Barracuda