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Connect to Protect

CyberWars: The Trust Awakens

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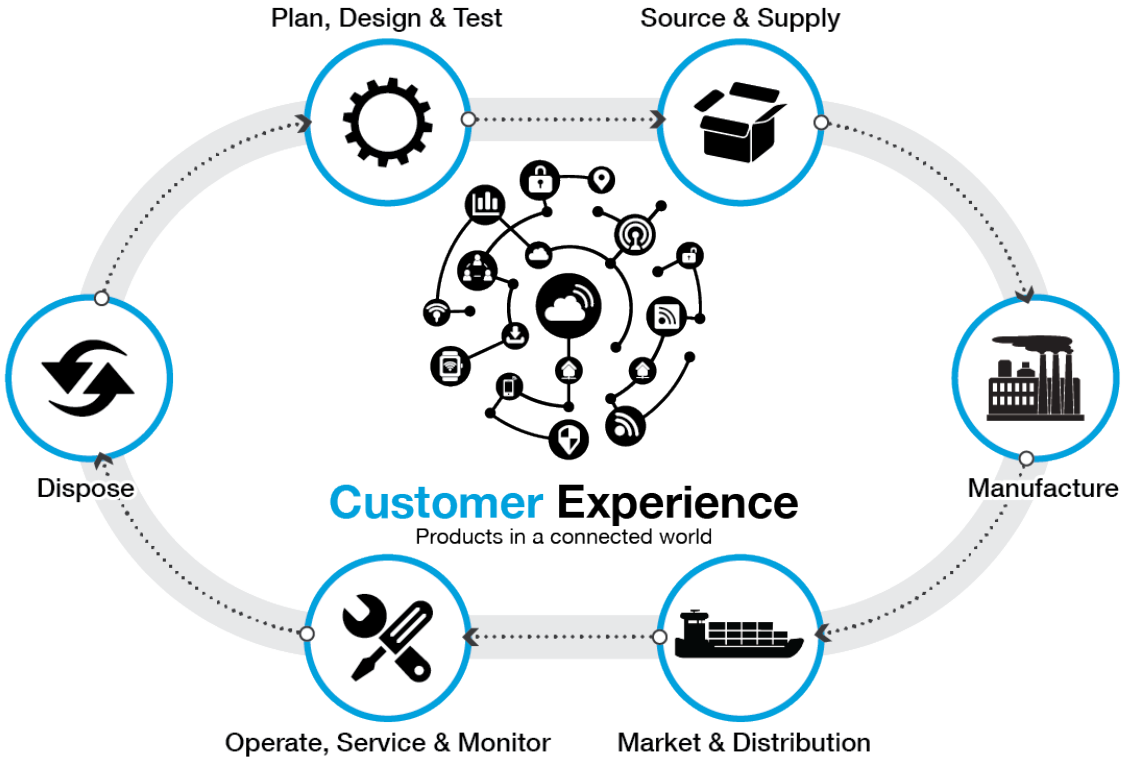
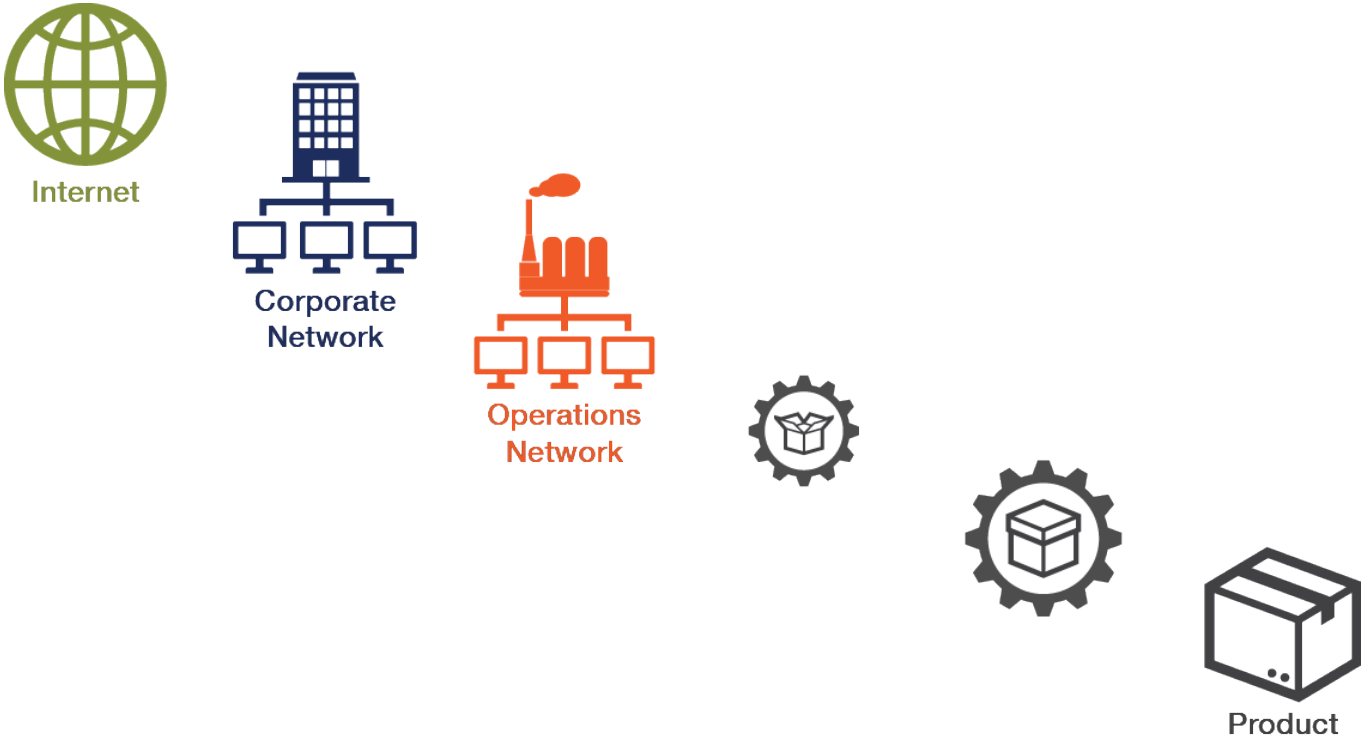
Let's Explore Production Security



Cycle Applies at Every Level

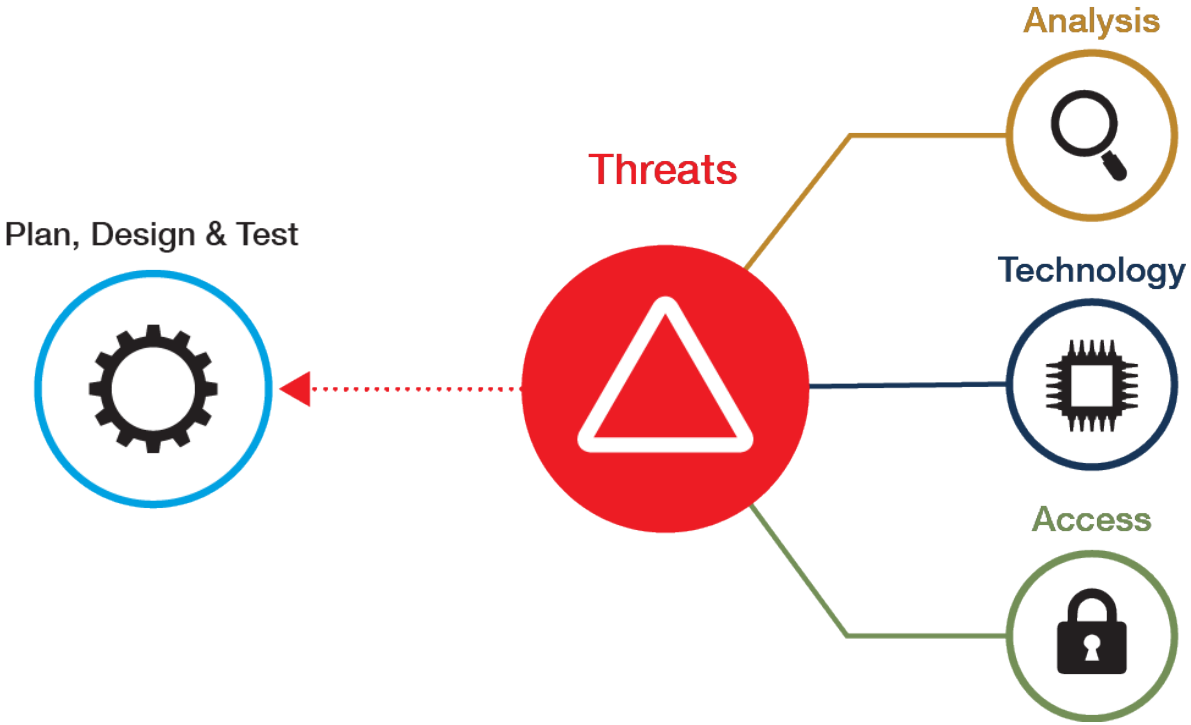
Culminates in a Completed Product



Building a Sense of Trust

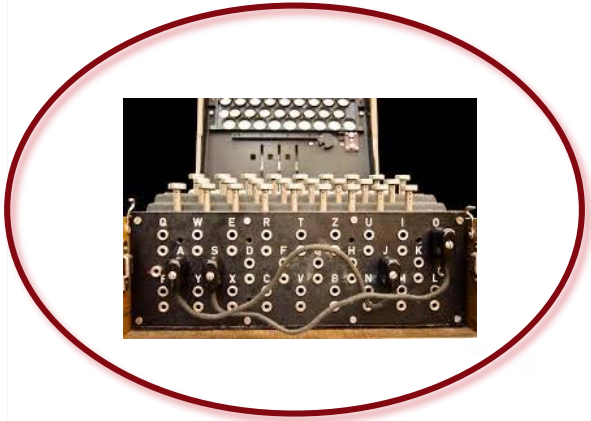
How Do We Build Trust?

Design Requirements and Threat

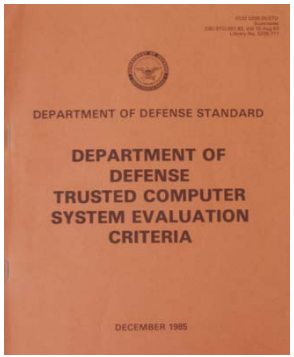


Extend to Cover the Entire Product

What About a Model for Long Term Trust?



We Actually Have Several…



CMMI

FIPS VALIDATED 140-2 ™

Common Criteria

1985

Cyber-ITL
Cyber Independent Testing Laboratory

BSIMM

FIPS 140 Security Requirements

4.1 Cryptographic Module Specification

4.2 Cryptographic Module Ports and Interfaces

4.3 Roles, Services, and Authentication

4.4 Finite State Model

4.5 Physical Security
(Single- Multiple-Chip Embedded & Multiple-Chip Standalone Cryptographic Modules; plus Environmental Failure Protection/Testing)

4.6 Operational Environment / Operating System Requirements

4.7 Cryptographic Key Management
(RNGs, Key: Generation, Establishment, Entry and Output, Storage, Zeroization)

4.8 Electromagnetic Interference /Electromagnetic Compatibility (EMI/EMC)

4.9 Self-Tests

4.10 Design Assurance
(Configuration Management, Delivery and Operation, Development, Guidance Documents)

4. 11 Mitigation of Other Attacks

Additional Requirements and Trust

- Identity & Data Tagging
- Endpoint Control and updates
- Dashboards, Monitoring and Reporting
- Hybrid Cloud Requirements
- Application Policy Integrity
- Authentication Service Model
- Wearable Roles, Requirements and Options
- Policy instantiation
- Intelligence Integration
- Vendor Support
- *Others?*
- **Risk Measurement**

As Trust Awakens, Benefits Grow

#RealSolutions

- **Today:** Who are your allies in establishing security requirements?
- **Next Week:** What are your requirements?
- **Next month:** Identify your allies & start planning.
- **Next quarter:** Gather your allies and start documenting
- **Next year:** Share your metrics and success

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IoT Breaks All the Rules: How Should Developers and Organizations React?

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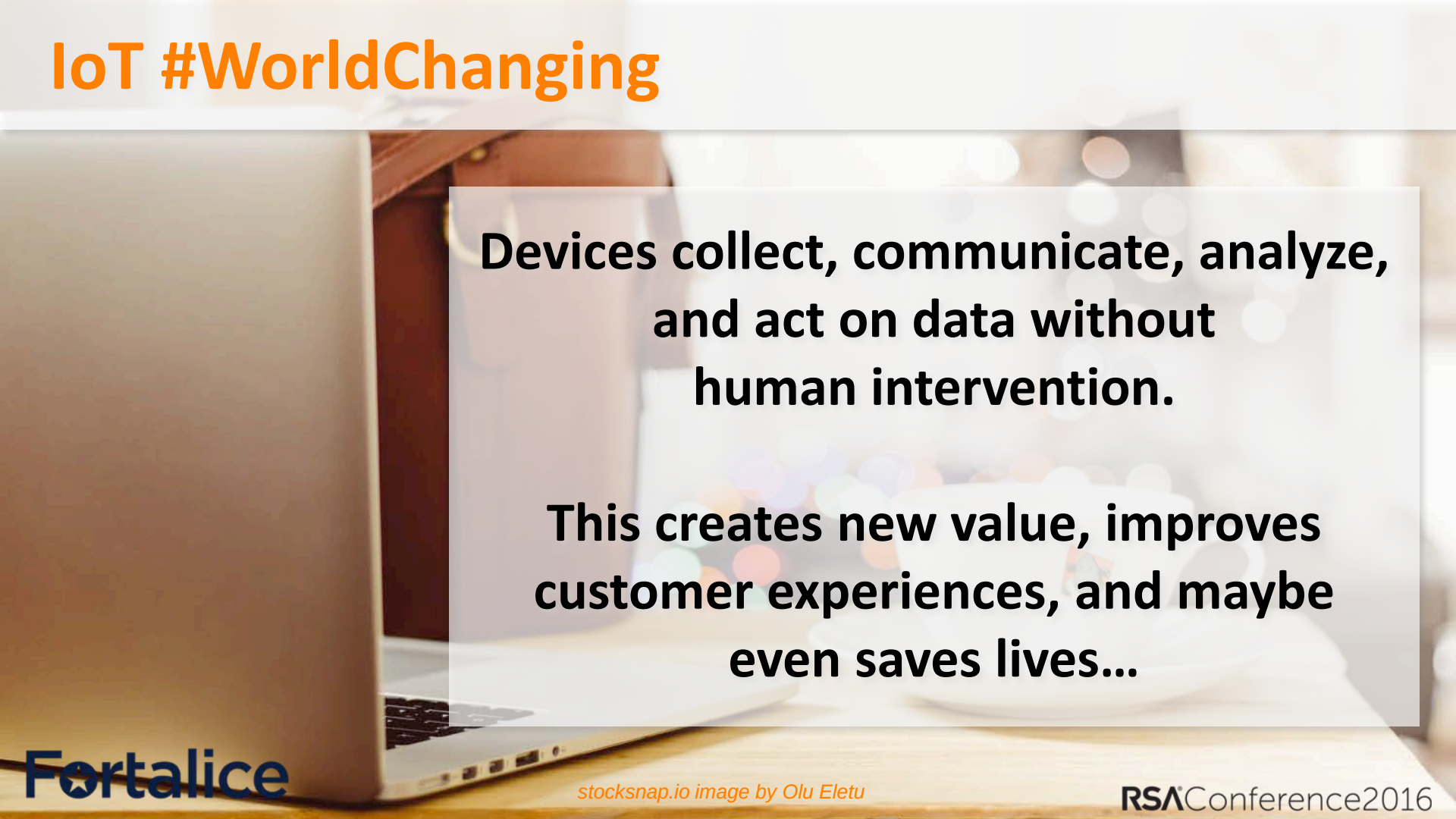
IoT #WorldChanging



Devices collect, communicate, analyze, and act on data without human intervention.

This creates new value, improves customer experiences, and maybe even saves lives…

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stocksnap.io image by Olu Eletu

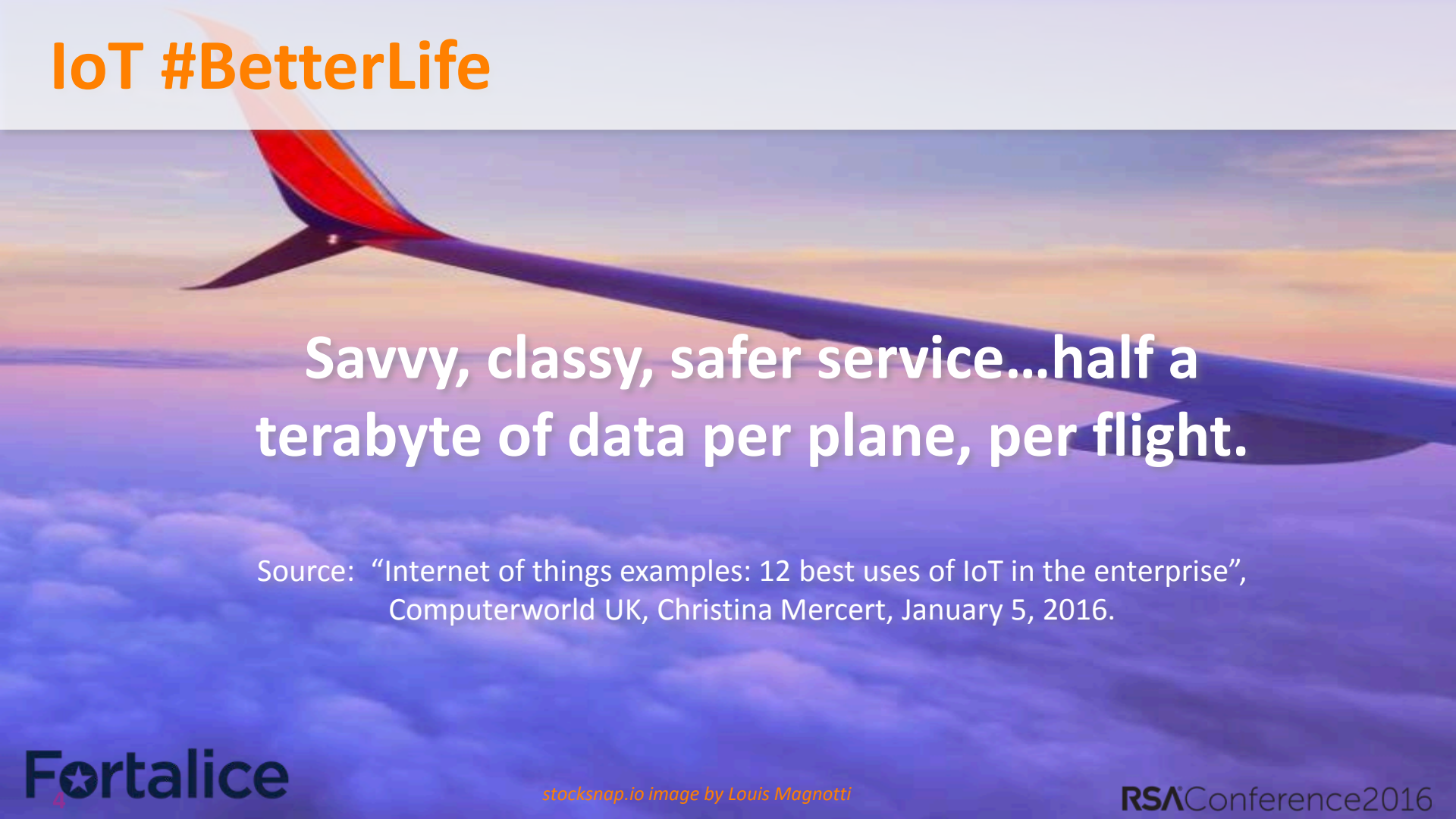
IoT #BetterLife

"Literally every piece of that plane has an internet connection, from the engines, to the flaps, to the landing gear."

— Virgin Atlantic IT Director, David Bulman

stocksnap.io image by Louis Magnotti

IoT #BetterLife



Savvy, classy, safer service…half a terabyte of data per plane, per flight.

Source: “Internet of things examples: 12 best uses of IoT in the enterprise”, Computerworld UK, Christina Mercert, January 5, 2016.

stocksnap.io image by Louis Magnotti

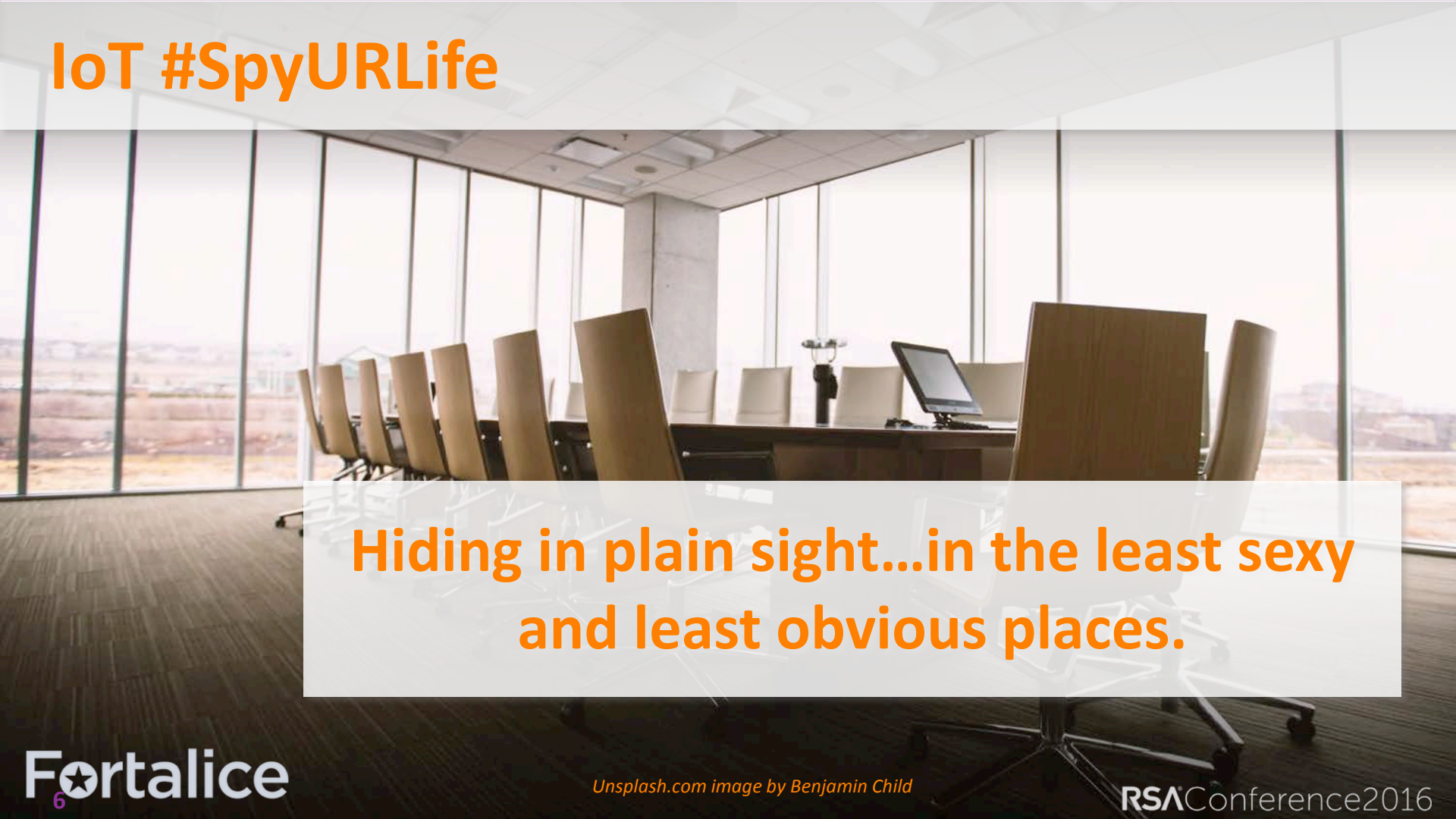
IoT #SaferLife

The new neighborhood watch in the UK?

Source: 8 ways the Internet of things will change the way we live and work, Alec Scott, The Globe and Mail.

stocksnap.io image by Wil Stewart

IoT #SpyURLife



Hiding in plain sight…in the least sexy and least obvious places.

Unsplash.com image by Benjamin Child

IoT #Collision = #Concussion

Image Source: NFL

IoT #InnovationLifecycle

The Good Guys…

Market Rollout:

- Not Sure of Adoption Rate
- Will Anyone Target the Product?
- Deal With Issues Later AFTER success…

IoT #InnovationLifecycle

The Bad Guys…

Criminals Targeting:

- Customer Details and Behavior
- Intellectual Property
- Creating Mayhem

IoT #HugeOppty

$4 - 11 Trillion potential global economic impact of IoT on Businesses & Consumers by 2025.

$1.6 Billion the estimated number of IoT devices in the global workplace today.

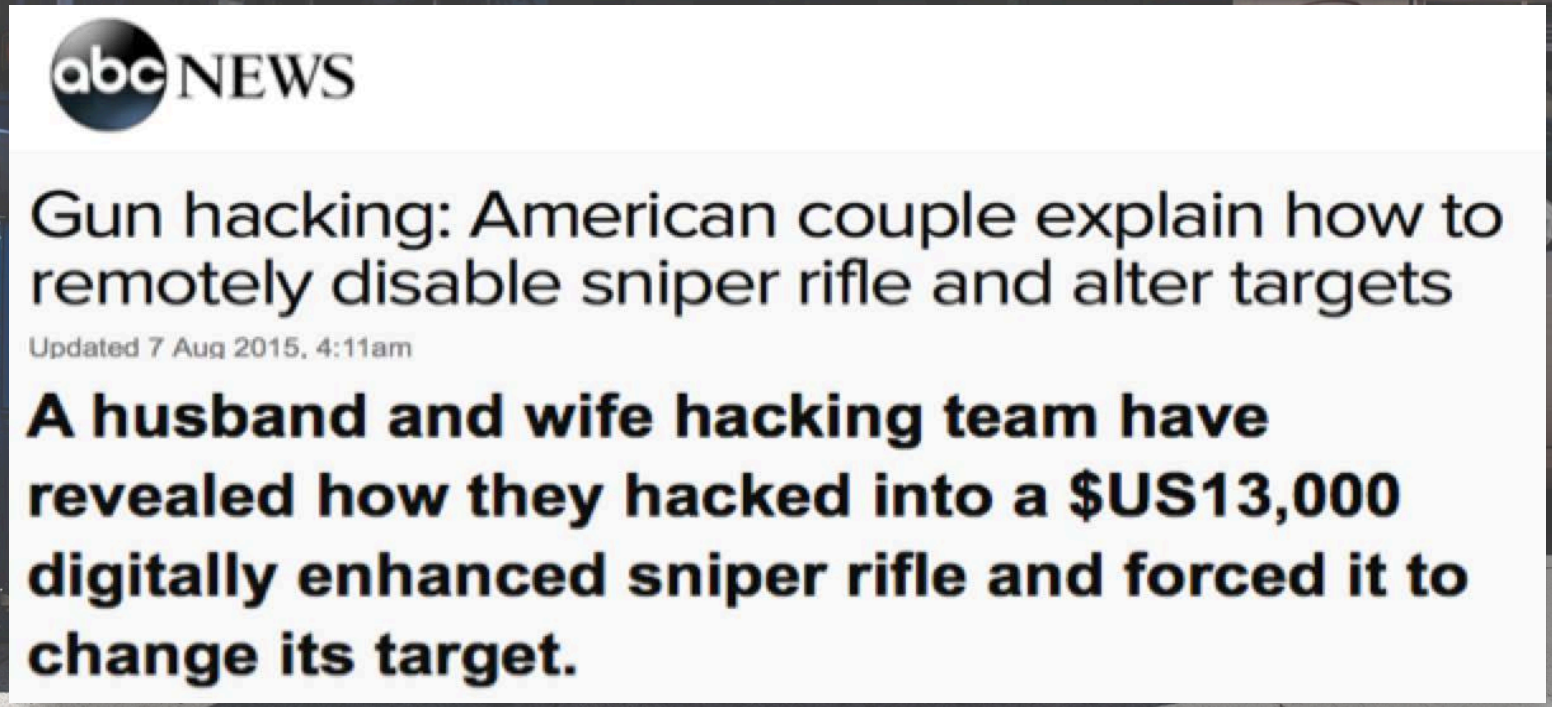
Sources: (1) McKinsey Study, "Unlocking the potential of the Internet of Things", June 2015. (2) "8 ways the Internet of things will change the way we live and work", Alec Scott, The Globe and Mail.

IoT #PilesOn

RSA's inaugural Cyber Security Poverty Index

72% of large enterprises are unprepared for all aspects of a data breach including identifying the scope, recovery, and notification…

IoT #Headlines



abc NEWS

Gun hacking: American couple explain how to remotely disable sniper rifle and alter targets

Updated 7 Aug 2015, 4:11am

A husband and wife hacking team have revealed how they hacked into a $US13,000 digitally enhanced sniper rifle and forced it to change its target.

Stocksnap.io: Jon Ottosson

IoT #Headlines

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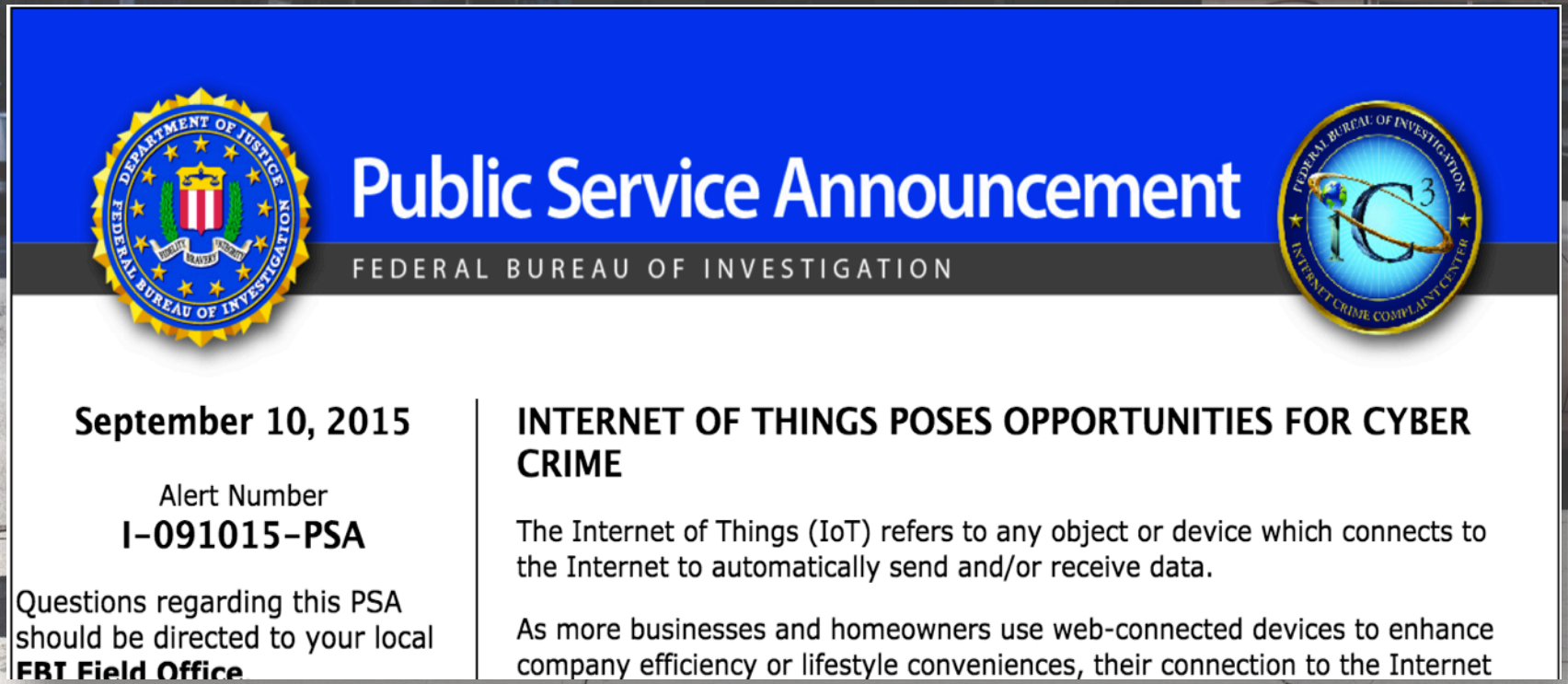

Public Service Announcement

FEDERAL BUREAU OF INVESTIGATION

September 10, 2015

Alert Number
I-091015-PSA

Questions regarding this PSA should be directed to your local **FBI Field Office**.

INTERNET OF THINGS POSES OPPORTUNITIES FOR CYBER CRIME

The Internet of Things (IoT) refers to any object or device which connects to the Internet to automatically send and/or receive data.

As more businesses and homeowners use web-connected devices to enhance company efficiency or lifestyle conveniences, their connection to the Internet

Stocksnap.io: Jon Ottosson

IoT #Headlines…#DataInHotWater

“Anticipating The Internet Of Things: How Can Businesses Combat The Risk?”

Source: Forbes, July 31, 2015
& Infosecurity Europe 2015

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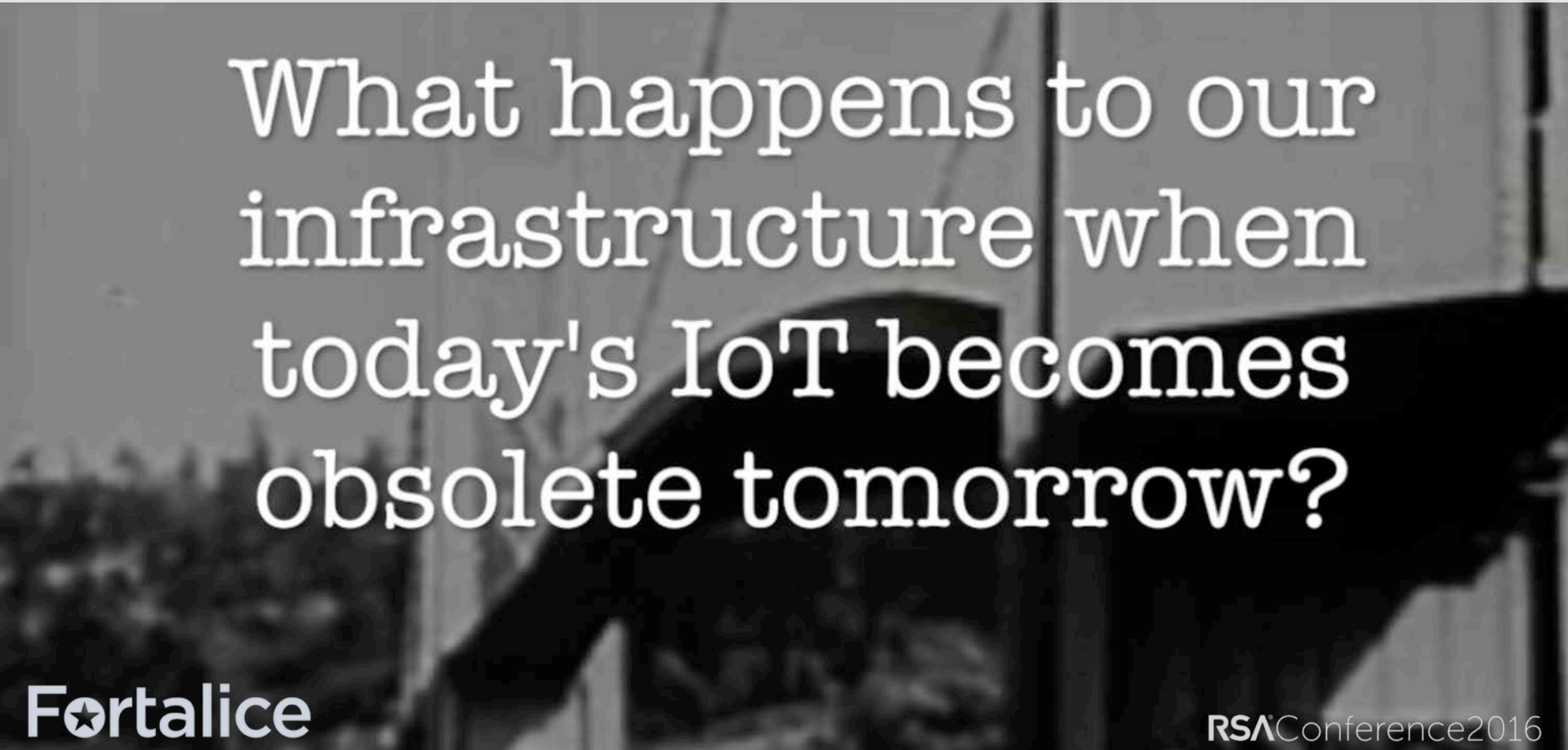
stocksnap.io image by Vee O

RSAConference2016

#SafetyTrumpsSecurity

#SafetyTrumpsSecurity

#SafetyTrumpsSecurity



#SafetyTrumpsSecurity

#SafetyTrumpsSecurity

The New York Times

Nest Thermostat Glitch Leaves Users in the Cold

Disruptions
By NICK BILTON JAN. 13, 2016

The Nest Learning Thermostat is dead to me, literally. Last week, my once-beloved "smart" thermostat suffered from a mysterious software bug that drained its battery and sent our home into a chill in the middle of the night.

Although I had set the thermostat to 70 degrees overnight, my wife and I were woken by a crying baby at 4 a.m. The thermometer in his room read 64 degrees, and the Nest was off.

This didn't happen to just me. The problems with the much-hyped thermostat, which allows users to monitor and adjust their thermostats

#SafetyTrumpsSecurity

White House #LessonsLearned

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Image: Official White House Photo by Samantha Appleton

RSAConference2016

Meet Your New #1BFF

Kill Switch = Business' BFF!

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Image by Mattel

Meet Your New IoT #BFFs

Kill Switch

Security or Privacy Safety Net

Equalize

Security and Innovation must be equals

Segment

Loosely coupled or segmented systems

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Image: Stocksnap, Startup Photos

IoT #BreaktheRules

Break all the security rules.

Rule #1 – Admit you are Cyber poor. Always.

Rule #2 – Make the IoT work for you, not against you.

Rule #3 – Defenses are breached & there is no perimeter to secure.

IoT #PrepWork - #RealProblems #RealSolutions

(1) Are cyber safety & security part of innovation & design discussions?

(2) Segment it to save it! Will the top 2 most critical assets be okay during a breach?

(3) Where can we build in a "kill switch" and when do we use it?

(4) Vendors … do we really know who they are? Do they prioritize our safety & security?

IoT #SetADate - #RealProblems #RealSolutions

Next week:

Safety & Security Risk Management AND Innovation & Design on equal footing

Next month:

Segment Top 2 Assets. Segment IoT devices.

Next quarter:

Make IoT and big data work for you! Baseline IoT usage: access & behaviors.

Next year:

Track and measure this success metric-the number of times security sits at the table for innovation and design. (Message me and let me know how you do!)

IoT #RealProblems #RealSolutions

Security Guidance for Critical Areas of Embedded Computing

http://prpl.works/security-guidance/

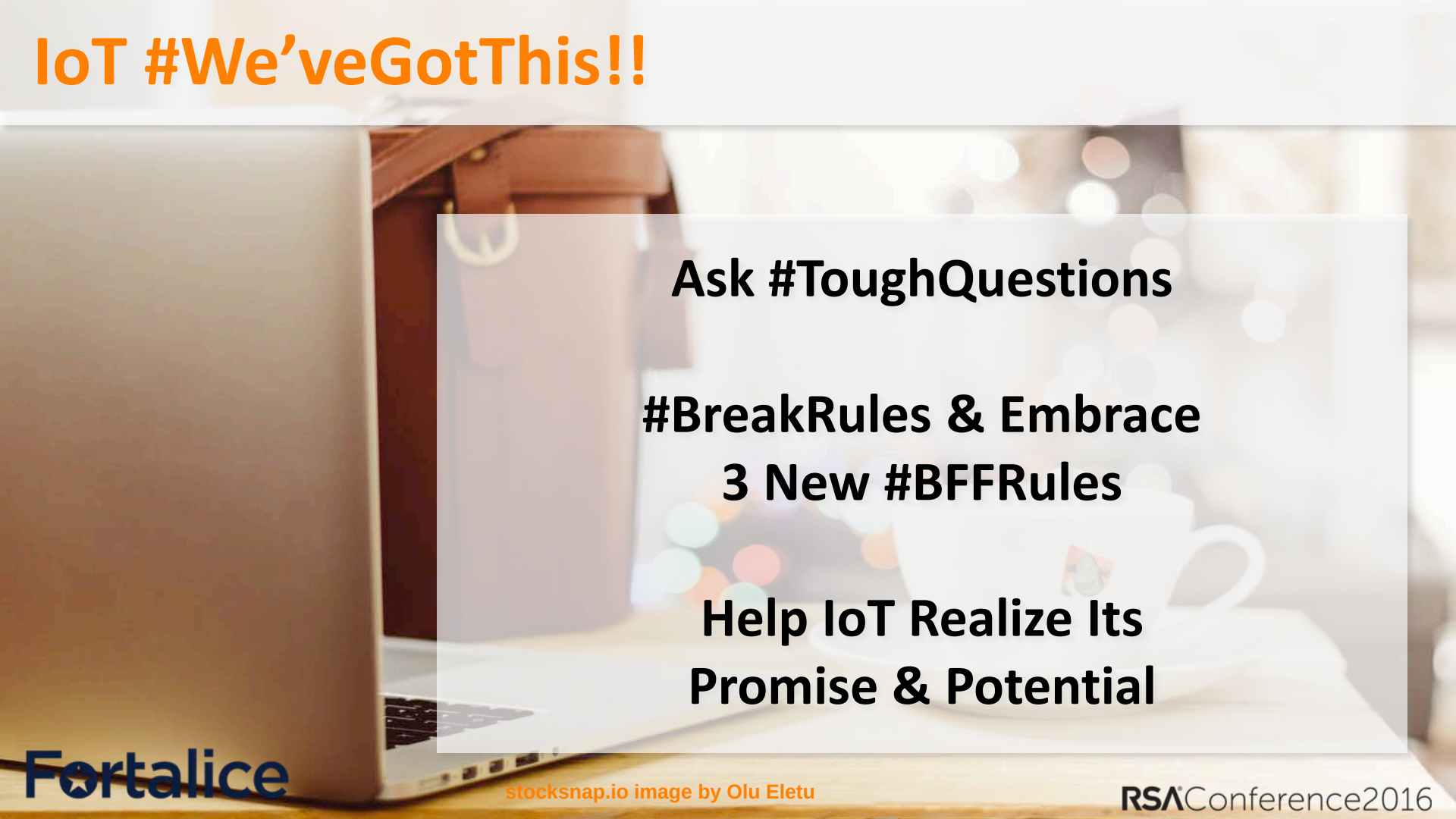
OWASP [Open Web Application Security Project] Top 10 Web Vulnerabilities

https://www.owasp.org/index.php/OWASP_Internet_of_Things_Project#IoT_Attack_Surface_Areas_Project

IoT Trust Framework by the Online Trust Alliance

https://otalliance.org/initiatives/internet-things

IoT #We’veGotThis!!



Ask #ToughQuestions

#BreakRules & Embrace 3 New #BFFRules

Help IoT Realize Its Promise & Potential

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stocksnap.io image by Olu Eletu

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