



# SECURING THE CONNECTED ENTERPRISE.

IT'S ONLY A MATTER OF TIME. WILL YOU BE READY?

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DIRECTOR, HARMAN CONNECTED SERVICES

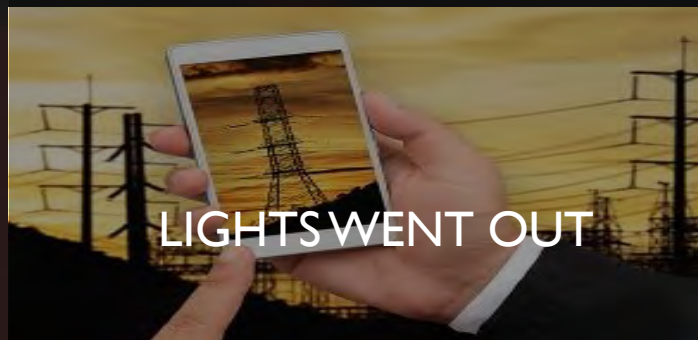


# EVERYTHING WAS FINE...





# THEN THIS HAPPENED.



# THE RISE OF IOT

8.4 BILLION DEVICES  
\$168 BILLION SPENDING

2020

BY 2020, MORE THAN **25%** OF IDENTIFIED ATTACKS IN ENTERPRISES WILL INVOLVE THE IOT, ALTHOUGH THE IOT WILL ACCOUNT FOR LESS THAN **10%** OF IT SECURITY BUDGETS.

2016

11 BILLION DEVICES  
\$210 BILLION SPENDING







# HARMAN AT THE CENTER OF DELIVERING CONNECTED EXPERIENCES



EMPLOYEES

35,000



COUNTRIES

30+



BRANDS

16+

## HARMAN BUSINESSES



### CONNECTED SERVICES

PLATFORMS | CLOUD COMPUTING |  
ANALYTICS | AI | IOT | TECHOPS |  
MOBILITY | OTA

- Leading Global R&D services provider
- Rated as leading IOT, Cyber Security, Communications & Digital Services
- New-age Technology Focus: AI, ML, Conversational UX, AR, VR
- Asset-led GTM

Microsoft | Sprint | KDDI | Nielsen



### LIFESTYLE AUDIO

PREMIUM BRANDED AUDIO | SOUND  
MANAGEMENT S/W FOR CAR, HOME  
AND ON-THE-GO

- Largest supplier of premium branded audio solutions
- JBL, HARMAN-KARDON, MARK LEVINSON, AKG ++

Official Audio Partner | Grammys and NBA



### CONNECTED CAR

NAVIGATION | MULTIMEDIA |  
CONNECTIVITY | TELEMATICS | SAFETY  
AND SECURITY

- Market leader in connected car solutions to the world's automakers
- Powering 8 of the 10 most reliable cars globally

Audi | Mercedes Benz | BMW



### PROFESSIONAL SOLUTIONS

AUDIO-LIGHTING | VIDEO  
SWITCHING | AUTOMATION FOR  
ENTERPRISE & ENTERTAINMENT

- World's largest professional audio, lighting, video and control products and systems company

Madison Square Garden | City Center, Vegas

**GLOBAL LEADER IN AUDIO, CLOUD, MOBILITY, ANALYTICS, COGNITIVE, IOT SERVICES & PRODUCTS**

# HARMAN CONNECTED SERVICES

GLOBAL LEADER IN **CONNECTED, INTELLIGENT, AUGMENTED & CONVERSATIONAL** PRODUCTS



IOT, OTA,  
CYBERSECURITY



AR, VR, MIXED REALITY,  
UX DESIGN



AI, ML, COGNITIVE



CONVERSATIONAL UX,  
NLP



INTELLIGENT EDGE DEVICES,  
CLOUD, PLATFORMS, API's

**AUTOMOTIVE | COMMUNICATION | DIGITAL HEALTH | HITECH**

10000+ GLOBAL R&D TALENT







# THE CONNECTED ENTERPRISE : CONVERGENCE OF IT + OT

## Information Technology

ERP

Costs

CRM

Orders

Demand  
Management

Constraints

Financial Planning

Specifications

Network  
Optimization



## Operational Technology

State

Control Systems

Location

Smart Machine

Conditions

Location Systems

Environment  
Sensors

Events

Barcodes/ RFID

✓ Smart Manufacturing  
✓ Smart Cities

✓ Connected Vehicles  
✓ Smart Agriculture

✓ Smart Grids  
✓ Connected Homes

✓ Connected Fitness



# IOT OR INTERNET OF 'VULNERABLE' THINGS

INSECURE WEB INTERFACE

INSECURE NETWORK SERVICES

PRIVACY CONCERNS

INEFFECTIVE AUTHENTICATION/AUTHORIZATION

LACK OF TRANSPORT ENCRYPTION

INSECURE CLOUD INTERFACE

INSECURE DEVICE INTERFACE

INSUFFICIENT SECURITY FEATURES

INSECURE SOFTWARE/FIRMWARE

ERASING ALL PERSONAL INFORMATION

Country		
 Russia	Mirai	171.xx.xx.31
 China	Mirai	42.xx.xx.133
 China	Mirai	180.xx.xx.132
 Brazil	Mirai	201.xx.xx.210

# CALL FOR EXPANSION OF SECURITY NEEDS

**INCREASED ATTACK SURFACE**

**THREAT DIVERSITY**

**IMPACT AND RISK**

**REMEDiation**

**PROTOCOLS**

**COMPLIANCE AND REGULATION**

Converged, Managed  
Network

Resilience at Scale

**Security**

Distributed  
Intelligence

Application  
Enablement



# SUCCESSFUL STEPS IN SECURING IOT

- ✓ C-level visibility of service level risks & Infrastructure vulnerabilities
- ✓ Process maturity & compliance
- ✓ Securing network edge devices, and cloud operations
- ✓ Managed security services
- ✓ SecOps and Security Testing (penetration etc)
- ✓ Device reverse engineering and due diligence
- ✓ Improved logging within standard
- ✓ Security devices to interact with a multitude of network protocols
- ✓ Continuous Defense to limit the attack surface
- ✓ Government Regulations and Liabilities for Consumer Devices

# WATCHDOG TECHNOLOGIES AT HARMAN



## Identify & Trust

Entrust Data Card



## Communication

Castanet IoT



## Endpoint Mgmt

Marimba & Redbend



## Vulnerability

Clarinet



## Compliance

Logsight



## Others

AI, Bigdata, Analytics...



# PARTNERING FOR SUCCESS

HARMAN engineering capabilities  
in IoT domain

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HARMAN product and vertical  
industry expertise

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Entrust Datacard security offering  
and experience

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Entrust Datacard security brand  
and track record

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Collaborative team to accelerate  
opportunities in IOT



Ensuring A Trusted Internet of Things



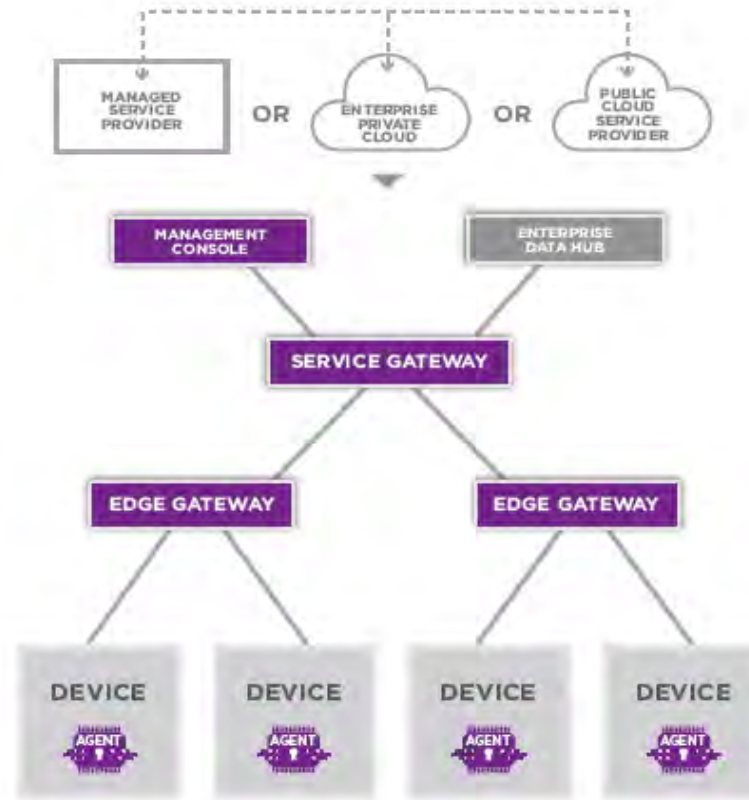
# IOTRUST: COMPELLING IOT SECURITY SOLUTION

## PRE-INTEGRATED OFFERINGS

Cloud ready, Application and Data platform agnostic

**ioTrust Value: Delivering secured infrastructure between “things” and applications**

Enabling different classes of “things” existing or greenfield



Integrated Device and Data Security

Identity Management: Manufacturing to Operations

Authentication and Authorization for every class of device

Data Acquisition Management

Supply Chain Integrity

Secure Auto Enrollment and Provisioning

- STREAMLINED DEPLOYMENT FOR BUSINESS OUTCOMES
- STRONG SECURITY ALIGNED WITH OPERATIONS REQUIREMENTS
- SCALABLE AND ALIGNED TO EVOLVING ECOSYSTEM









**QUESTIONS?**