



**Check Point**  
SOFTWARE TECHNOLOGIES LTD

# IoT is Coming! Are You Ready for It?



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**IoT  
IS COMING**

**... OR IS IT ALREADY HERE?**

A man in a blue shirt is looking through binoculars in a server room. The background shows rows of server racks with blue doors and bright overhead lights. A dark horizontal band is overlaid across the middle of the image, containing white text.

**How many IoT devices are  
deployed inside your network?**

# IoT IS ALL AROUND US

20,000

IoT DEVICES



ENTERPRISE

10,000 employees

10,000

IoMT DEVICES



HOSPITAL

500 beds

5,000

IIoT DEVICES



FACTORY

2,000 workers

# IoT Devices are Hard to Secure

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No Security-by-Design

Default Passwords

Unmanaged & Invisible



# BACKDOOR FOR HACKERS

## Microsoft: Russian state hackers are using IoT devices to breach enterprise networks

Microsoft said it detected Strontium (APT28) targeting VoIP phones, printers, and video decoders.

Aug 2019

## IBM X-Force: Mirai is increasingly targeting enterprise IoT devices

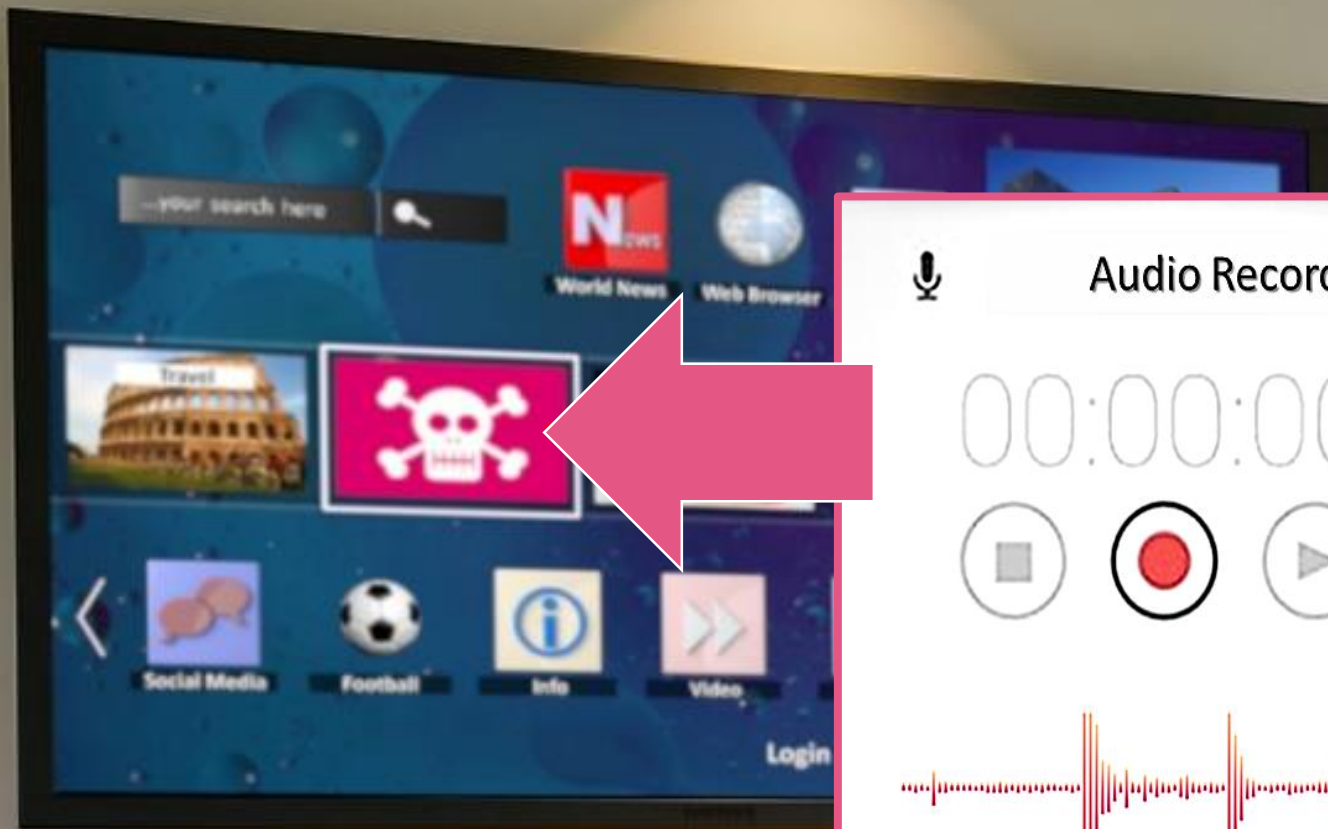
Since it first wreaked havoc in 2016, Mirai malware has branched out into more than 60 known variants and taken aim at the enterprise.

Jul 2019









Two side-by-side panels, each titled "Audio Recorder" with a microphone icon. The left panel shows a timer at "00:00:00" and three control buttons: a square stop button, a red circle record button, and a play button. Below the buttons is a red audio waveform. The right panel shows a timer at "00:00:20" and three control buttons: a square stop button, a red double vertical bar pause button, and a play button. Below the buttons is a red audio waveform. A pink border surrounds both panels.



Samsung Support USA

@SamsungSupport

Follow



Prevent malicious software attacks on your TV by scanning for viruses on your TV every few weeks.

# IoT VULNERABILITIES ARE ALL AROUND US





# IoT CYBER SECURITY ?

# Check Point IoT Cyber Security

Autonomous IoT Security for Every Device in Any Environment



**REAL-TIME  
IoT RISK ANALYSIS**



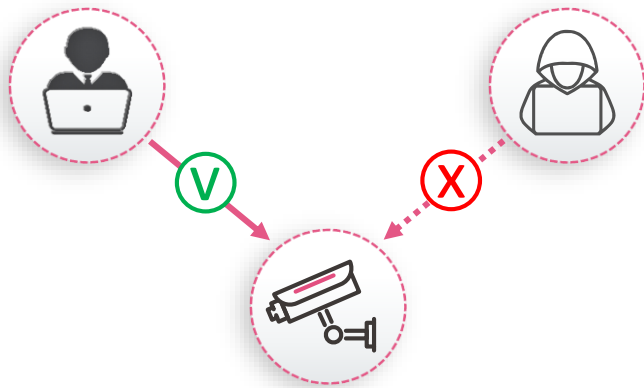
**ZERO-TRUST  
IoT SEGMENTATION**



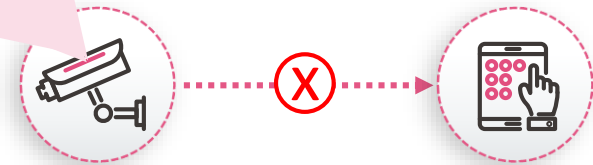
**MULTI-LAYER IoT  
THREAT PREVENTION**

# Check Point IoT Cyber Security

Protect Your IoT Devices | Protect Your Network



Prevent unauthorized access and malicious intent from reaching IoT devices



Prevent infected devices from compromising other network elements

# AUTOMATICALLY DISCOVER EVERY IoT DEVICE IN THE NETWORK



Granular information per device

Host

Security Camera  
Enter Object Comment

General  
Network Management  
NAT  
Advanced

IP CAMERA – CAM VENDOR – C28

Device ID			
IP	10.105.15.165	Model	C28
MAC	00:40:8C:35:78:54	Firmware Version	12.34.56
Group	Building	Connection Type	LAN Wired
Type	IP Camera	VLAN	101
Manufacturer	CAM VENDOR	Protocols	HTTP, DHCP, SNMP

OK Cancel

# KNOW WHAT YOU DON'T KNOW

## Identify and Analyze IoT Security Risks

**IP CAMERA – CAM VENDOR – C28** **CRITICAL**

Outdated Firmware	Yes	CVE without IP
Firmware Analysis	Bad	
Weak Password	Yes	CVE cov

**RISK ANALYSIS**

- Severe Vulnerabilities: 50%
- Weak Credentials: 66%
- Wrong Build Flags: 71%

**Action Items**

Severity	Action
Critical	Update outdated components
Medium	Change easily-crackable passwords / known passwords
Medium	Unprotected private keys detected in image, remove or protect them.
Medium	Rebuild ELF binaries using security features. Add compilation flags to gcc: Stack smashing protection: <b>-fstack-protector-all</b> Debug symbols removal: <b>-s</b> Enable ASLR: <b>-fPIE -pie</b> Relocation Read-only: <b>-Wl,-z,relro-Wl,-z,now</b> Address Sanitizer: <b>-fsanitize=address</b> . <i>If your toolchain does not contain a libasan.so, this will not work</i> Fortify Source: <b>-D_FORTIFY_SOURCE=2</b>

**Firmware Report**

178.143.2.1 ; 168.4.5.6.7





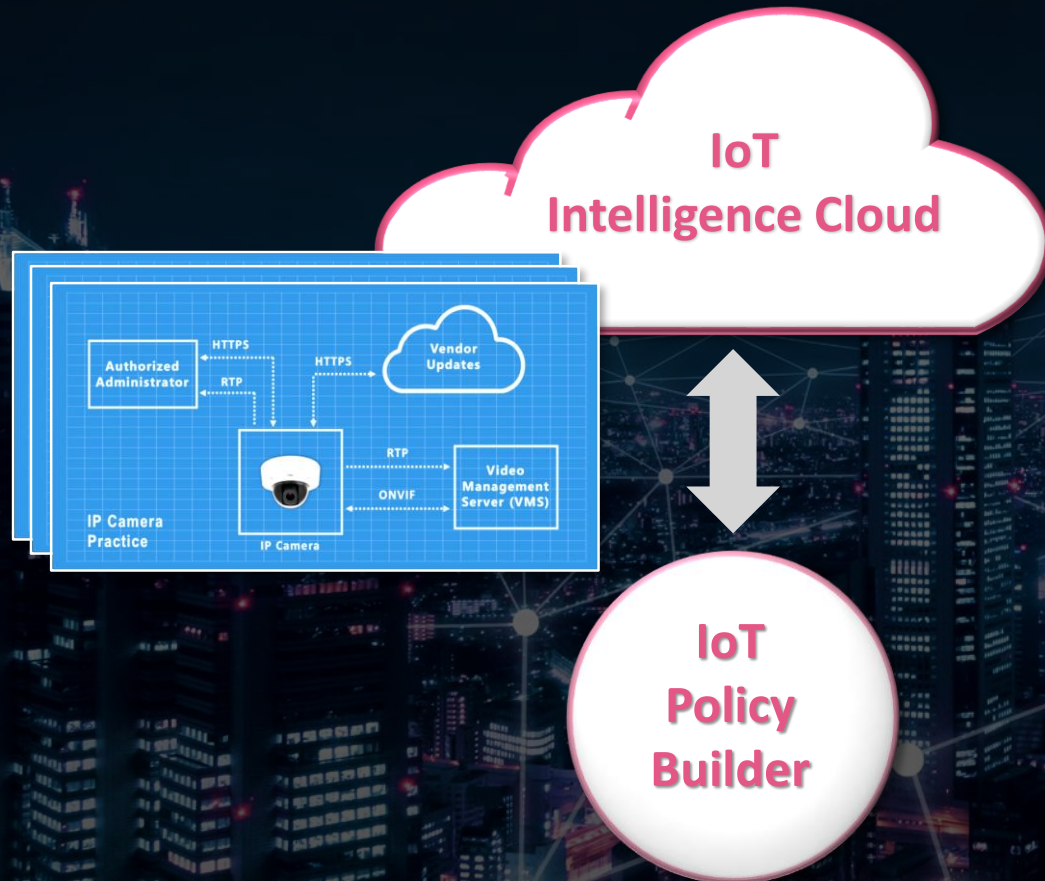
**MANUAL  
POLICY ?**

**SERIOUSLY?!!**

# SAVE TIME AND EFFORT

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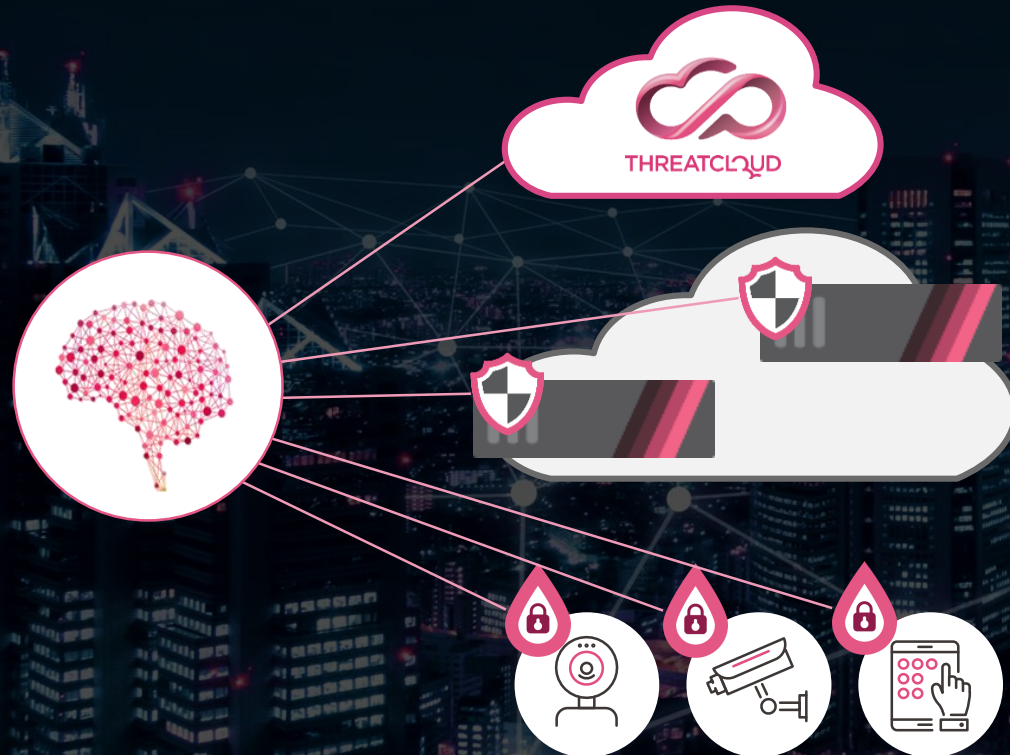
## with Automated IoT Policy



# BE PREPARED FOR THE KNOWN & THE UNKNOWN

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## with Automated IoT Protections



# EMBEDDED NANO AGENTS

make Every IoT Device 'Safe-to-Use'



- 1 Analyze device firmware
- 2 Automatically generate tailored Nano Agent
- 3 On-Device Runtime Protection

# CHECK POINT IoT CYBER SECURITY

Autonomous Security Built for IoT



**Check Point**  
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**THANK YOU**

