SafeShark Consumer IoT Cyber Security Conformance

Jonathan Marshall
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Introducing

SafeShark

A joint venture between DTG Testing and Connect Devices to help manufacturers navigate cybersecurity standards for IoT

- What are the cyber security requirements for Consumer IoT?
- Why are they coming in?
- When will they be introduced?
- How SafeShark can help

What is SafeShark?

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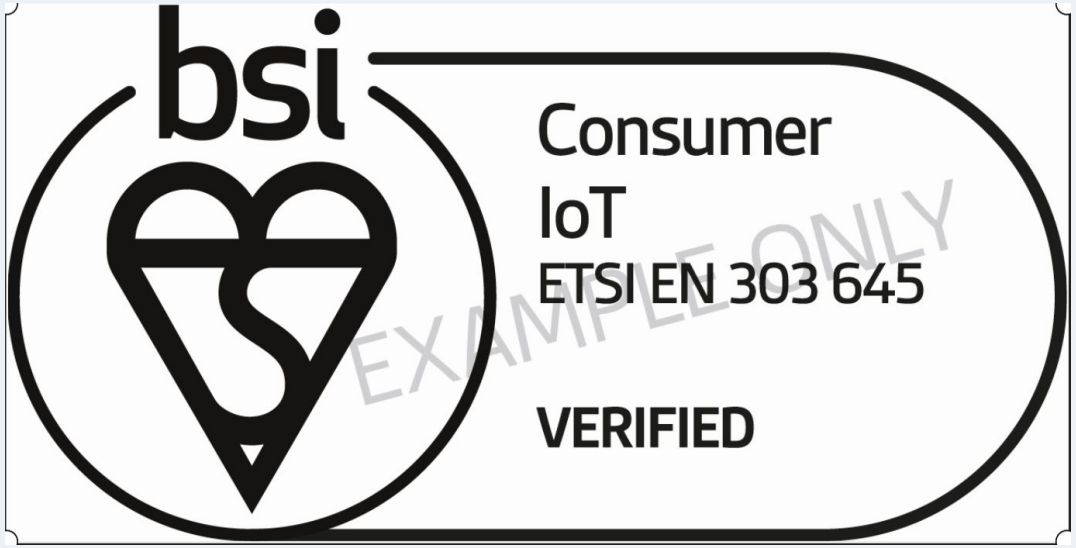
SafeShark and BSI launch Consumer IoT cyber security assurance scheme

- SafeShark provide cyber security testing services carried out against international standards
- Backed with certification from BSI
- A consumer facing logo can then be used to provide assurance of cyber security best practice
- Set up through DCMS funding, we work closely with UK Government and international standards organisations



Why were we set up

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The UK Code of Practice for Consumer IoT Security has developed into a European standard (EN 303 645)and test spec (TS 103 701)

Upcoming UK legislation will be based on EN 303 645

Further standards to be written for EU market access with EN 303 645 as a basis

What are the requirements?

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EN 303 645 has 13 cyber security provisions

Plus an additional section for Data Protection

UK Legislation will be based on the first 3 provisions - **initially**

EU cyber security requirements will be via RE-D

5 Cyber security provisions for consumer IoT .....
5.1 No universal default passwords.....
5.2 Implement a means to manage reports of vulnerabilities
5.3 Keep software updated .....
5.4 Securely store sensitive security parameters .....
5.5 Communicate securely .....
5.6 Minimize exposed attack surfaces.....
5.7 Ensure software integrity.....
5.8 Ensure that personal data is secure .....
5.9 Make systems resilient to outages .....
5.10 Examine system telemetry data .....
5.11 Make it easy for users to delete user data.....
5.12 Make installation and maintenance of devices easy .....
5.13 Validate input data.....

6 Data protection provisions for consumer IoT.....

What are the threats?

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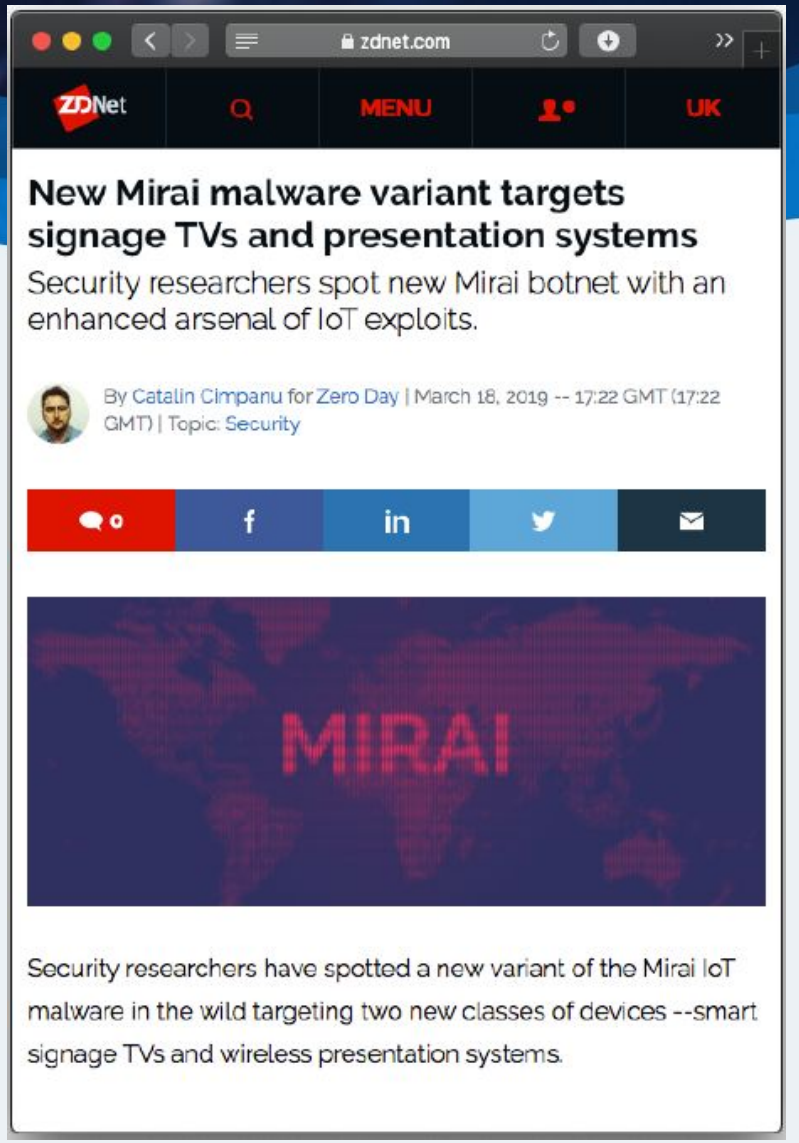
- Mirai is probably the most well known
- Creating a ‘Botnet’ of IoT devices to target organisations in a coordinate attack
- Targeted at consumer IoT devices including smart cameras and PVRs
- The original attack took down major websites globally



What about my TV?

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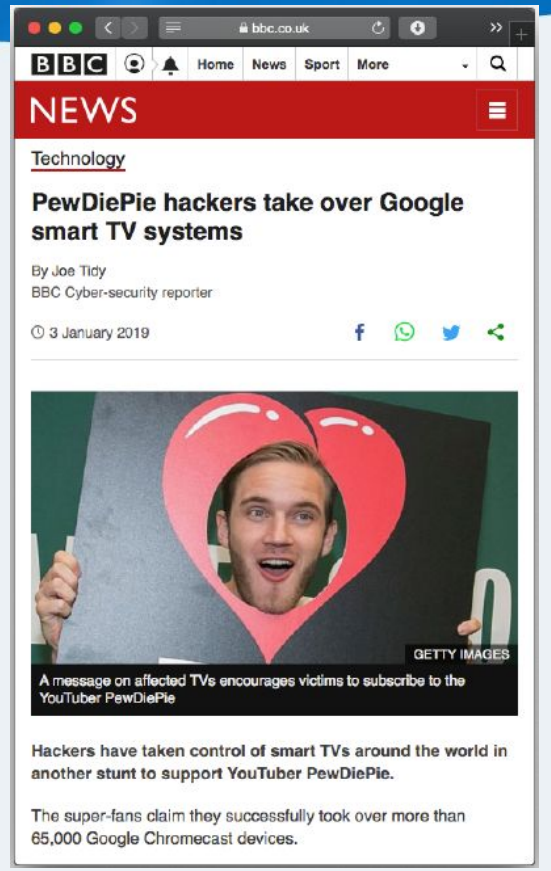

How can SafeShark help

Incorporating multiple test standards into a single service

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- A combination of expert assessment and automated objective testing
- Unique Intercept platform enabled continuous monitoring of devices
- Ensure that devices remain compliant through software updates and specification developments
- Regular reporting to manufacturers is provided to assist product development

SafeShark testing

Intercept - the unique cyber security test platform

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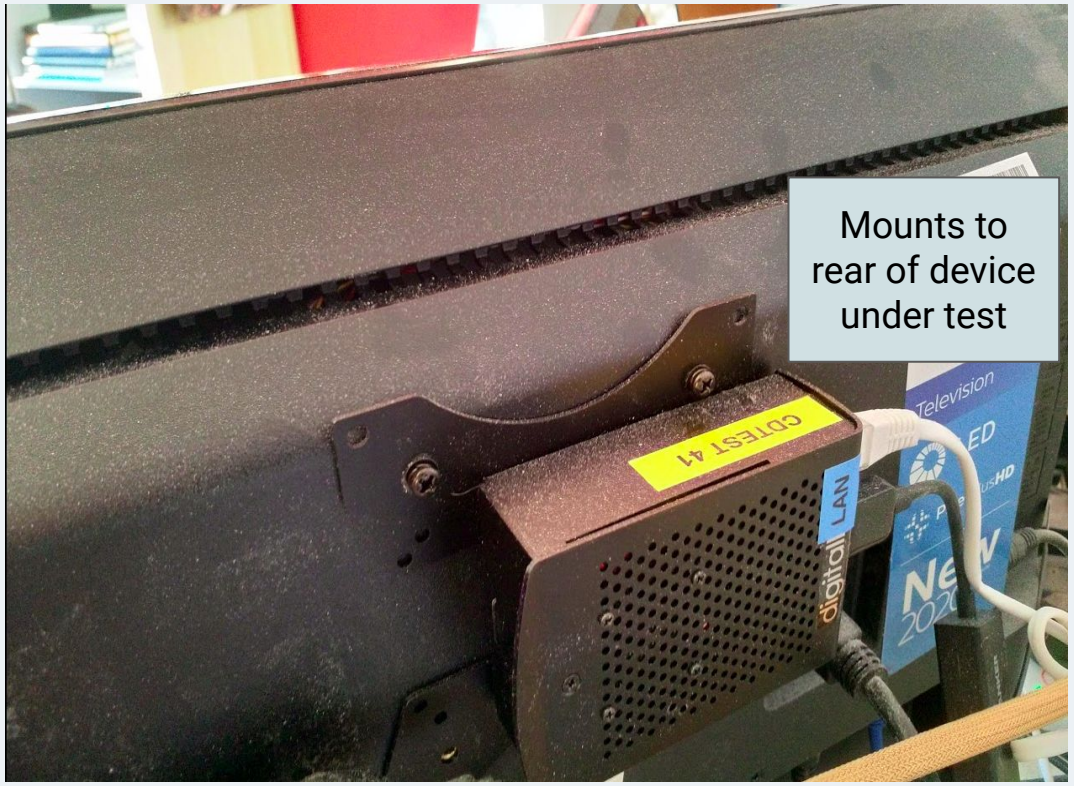
- The Intercept platform can be installed on any IoT device providing:
- Multiple location support
- Integrated with cloud based reporting and monitoring
- Real world data and findings



SafeShark testing

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Some interesting finds

- TV that has code in for a fridge
- Remote access to devices through brute force attacks
- Devices with many open ports
- Devices making 000’s of DNS requests daily

```
"refridgeDoor": "Refrigerator Door",
"remoteConrol": "Remote Start",
"expressCooling": "Ice Plus",
"waterSensor": "Water Leak",
"actHoming": "Go Home",
"act.wakeup": "Power-Saving Mode Off",
"totalAirQuality": "Overall Cleanliness",
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DNS Requests

if a device under test makes a network call to the Internet, then the Domain Name looked up will be in this

DNS name	count
ooooooooooooo.netflix.com	o o o
ooooooooooooo.myhomescreen.tv	o o o
ooo.oooooooo.mozilla.org	o o o
ooooooooo.netflix.com	o o o
oooooooooooooo.myhomescreen.tv	o o o
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Roadmap

When is the time to act?

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- UK and EU market access requirements are under development now
- These represent a minimum baseline requirement for compliance and on their own are not enough to build trust around a product or brand
- **Protect your customers,** your business, your investors, your reputation, and your brand position.
- **Prepare for the legislation** and increasing consumer demand before this becomes a business-critical issue.
- **Enhance your products and brand** early on, building a reputation and trust by taking a hard consumer protection stance.

SafeShark and BSI are working with leading manufacturers

Next steps

Get in touch

SafeShark

- SafeShark are offering free health checks on devices **for a limited time**
- Understand how your product performs against standards requirements
- Find out how your product compares to your sector as a whole
- Sign up via our website https://safeshark.co.uk/contact/

Helping manufacturers navigate cybersecurity standards for IoT

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Contact Us

jonm@safeshark.co.uk

www.safeshark.co.uk