

IoT and Security

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On October 21, 2016 the Mirai botnet was (probably) used to attack Dyn, which resulted in outages for Airbnb, HBO, the Guardian, Visa Xbox Live, . . .

Mirai targeted printers, IP cameras, residential gateways and baby monitors running Linux. Its source has been published.

Bruce Schneier argues that security won't be driven by IoT market, more likely to need regulation. Computers and phones have update mechanisms because they compete on security to some extent.

Also, need to think of devices not as TV with an embedded computer, but a computer that happens to have a screen attached. (Similarly for routers, security cameras, baby monitors, immersion heaters, fridges, cars, ...)

How to transport data safely. IETF now says Pervasive Monitoring Is an Attack.

Once data is moved to cloud/servers are you back to traditional security problems?

Technical Challenges

- CPU cycles for traditional crypto.
- Sources of random numbers.
- How to we update these things?
- No user interface — how do we manage/authenticate/...
- How to give privacy while updating/managing/...

Schneier & Regulation :

https://www.schneier.com/blog/archives/2016/11/regulation_of_t.html

https://www.schneier.com/blog/archives/2016/10/security_econom_1.html

<http://www.bankinfosecurity.com/>

congress-explores-how-to-bolster-iot-cybersecurity-a-9535

<https://gcn.com/articles/2016/11/17/iot-regulation.aspx>

DHS & NIST :

<https://www.dhs.gov/securingtheIoT>

<http://nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.800-160.pdf>

IETF :

<https://tools.ietf.org/html/rfc7258>

<https://tools.ietf.org/html/draft-iab-iotsu-workshop>

<https://tools.ietf.org/html/draft-moore-iot-security-bcp-00>

HOW STANDARDS PROLIFERATE:
(SEE: A/C CHARGERS, CHARACTER ENCODINGS, INSTANT MESSAGING, ETC.)

