

Internet of Things

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It's the Software, Stupid!

- Bugs (who will fix? For how long?)
- Updates
 - Source? Integrity? Communication path(s). Confirmations?
- (Strong) authentication of parties
 - Who/What can control? Configure? Receive data?
- Scaling up configuration
 - The 200 device house (and the 15 year old next door)
 - The 10,000 device manufacturing plant!

Access Control and Security

- Residents vs Guests

Differentiating among residents, guests and robbers (?)

What happens after guests leave?

- Parents vs Kids
- Emergency access: Fire, Break-in, Medical Emergency
- Access to data gathered by devices in operation

The Role of Standards

- Major issue for interoperability, safety, privacy and security
- Proprietary and private sector consortia conventions
 - IEEE, THREAD, WEAVE, SGIP, ZIGBEE, IOTX, Schema.org, OCF, IPv6/IETF, NEMA ...
- National and International Standards (ANSI, ITU-T, ISO...)
- Backward compatibility
- Likely pressure from consumers, business, government, military, health care...

Major considerations

- Reliability and Ease of use
- Safety (<https://arxiv.org/pdf/1606.06565v2.pdf>)
- Security
- Privacy
- Autonomy (Your house should not stop working just because Internet access is down)
- Interoperability (of ensembles)