



NARUC

Winter Committee Meetings

Committee on Electricity

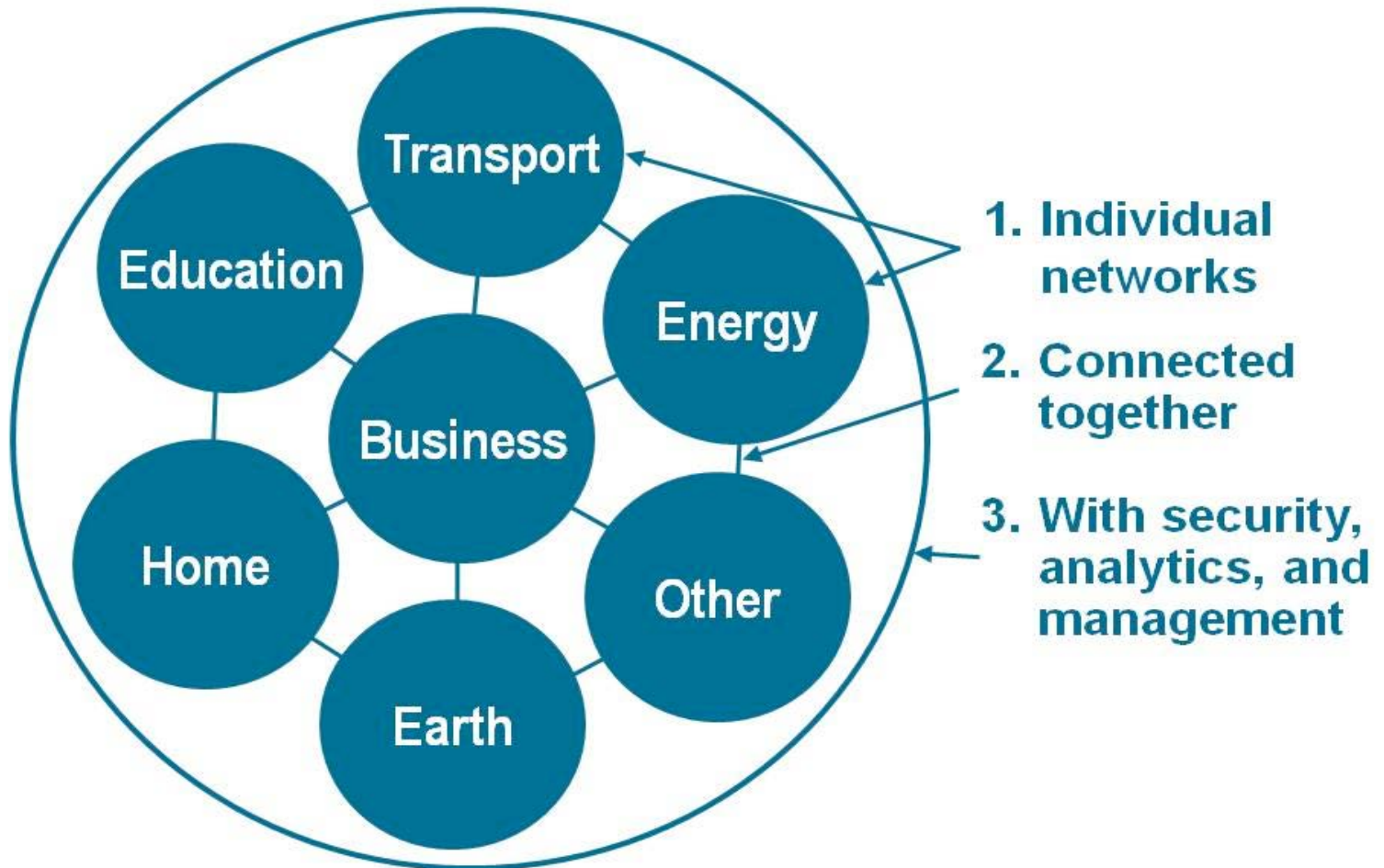
Cyber Risks and the Internet of Things

Moderator: *Hon Richard Mroz*, NJ

Speakers:

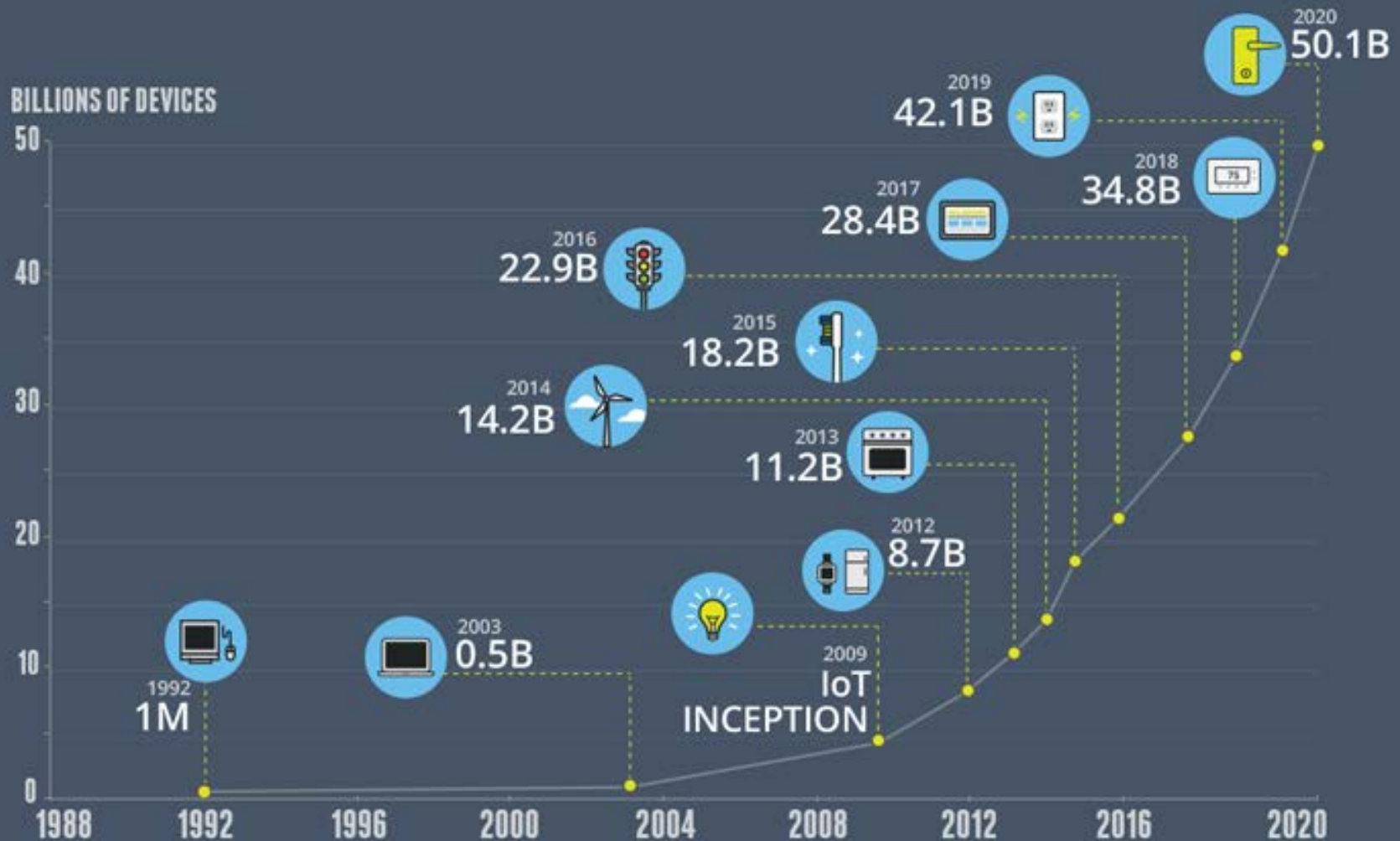
- ▶ Hon. Nick Wagner, Iowa
- ▶ Jeff Voas, National Institute of Science & Technology
- ▶ Karen Lefkowitz, Pepco Holdings

Internet of Things



GROWTH IN THE INTERNET OF THINGS

THE NUMBER OF CONNECTED DEVICES WILL EXCEED **50 BILLION** BY 2020



“IoT is a clear and present danger for the internet.”

Mikko Hypponen

F-Secure

October 2016:

A massive DDOS attack against a company that provides web site name – IP translation service brought down Twitter, Amazon, Paypal and Netflix and more.

Millions of hacked IoT devices, including home security cameras and baby monitors, turned into BOTS and exploited to launch attack.

NIST Special Publication 800-183

Networks of ‘Things’

Jeffrey Voas

This publication is available free of charge from:
<http://dx.doi.org/10.6028/NIST.SP.800-183>

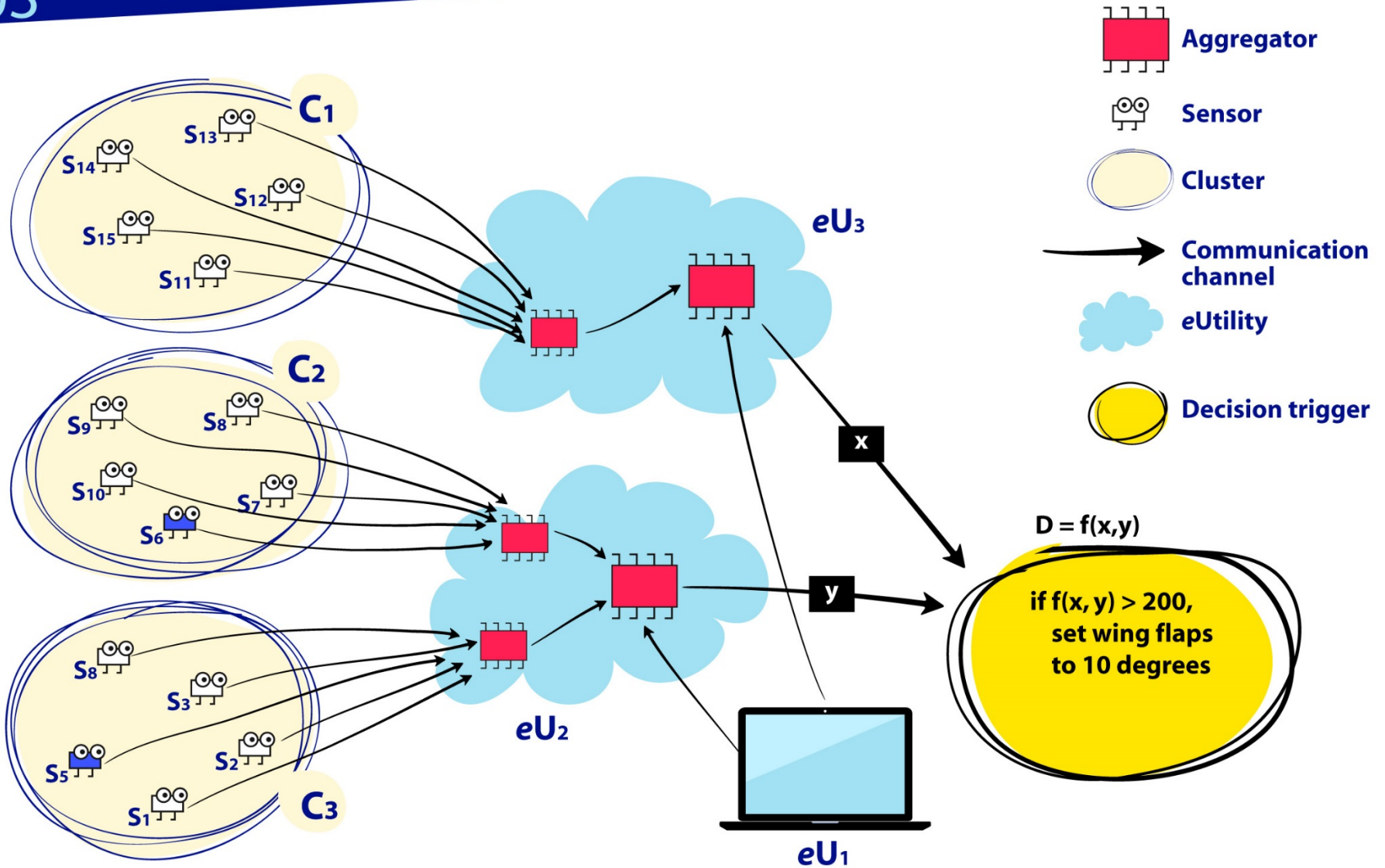
C O M P U T E R S E C U R I T Y

NIST
National Institute of
Standards and Technology
U.S. Department of Commerce

<http://nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.800-183.pdf>

The 5 Ingredients

1. **Sensor** A *sensor* is an electronic utility that measures physical properties such as temperature, acceleration, weight, sound, location, presence, identity, etc. All sensors employ mechanical, electrical, chemical, optical, or other effects at an interface to a controlled process or open environment
2. **Aggregator** An *aggregator* is a software implementation based on mathematical function(s) that transforms groups of *raw* data into *intermediate, aggregated* data. Raw data can come from any source. Aggregators address 'big' data.
3. **Communication channel** A *communication channel* is a medium by which data is transmitted (e.g., physical via USB, wireless, wired, verbal, etc.).
4. **eUtility** An *eUtility* (external utility) is a software or hardware product, or service.
5. **Decision trigger** A *decision* trigger creates the final result(s) needed to satisfy the purpose, specification, and requirements of a specific NoT.



time snapshots



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