

Dominique Guinard, CTO – co-founder
@domguinard
@EVERYTHNG



Panel: Web of Things

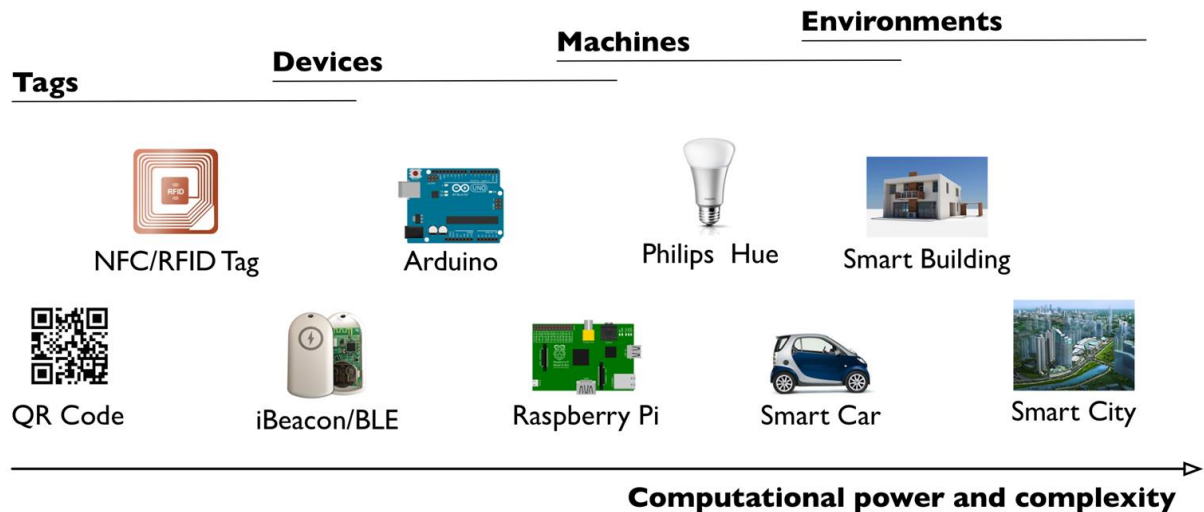
Dominique Guinard, EVERYTHNG & Webofthings.org

Dave Raggett, W3C

Federico Sismondi, F-Interop

Smarter products
come with EVERYTHNG

Define IoT!



Source: Building the Web of Things: book.webofthings.io
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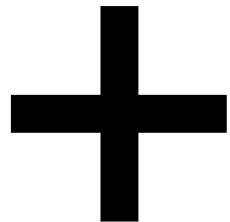
- **DEFINITION:**
The Internet of Things is a system of physical objects that can be discovered, monitored, controlled, or interacted with by electronic devices that communicate over various networking interfaces and eventually can be connected to the wider **Internet**.

“

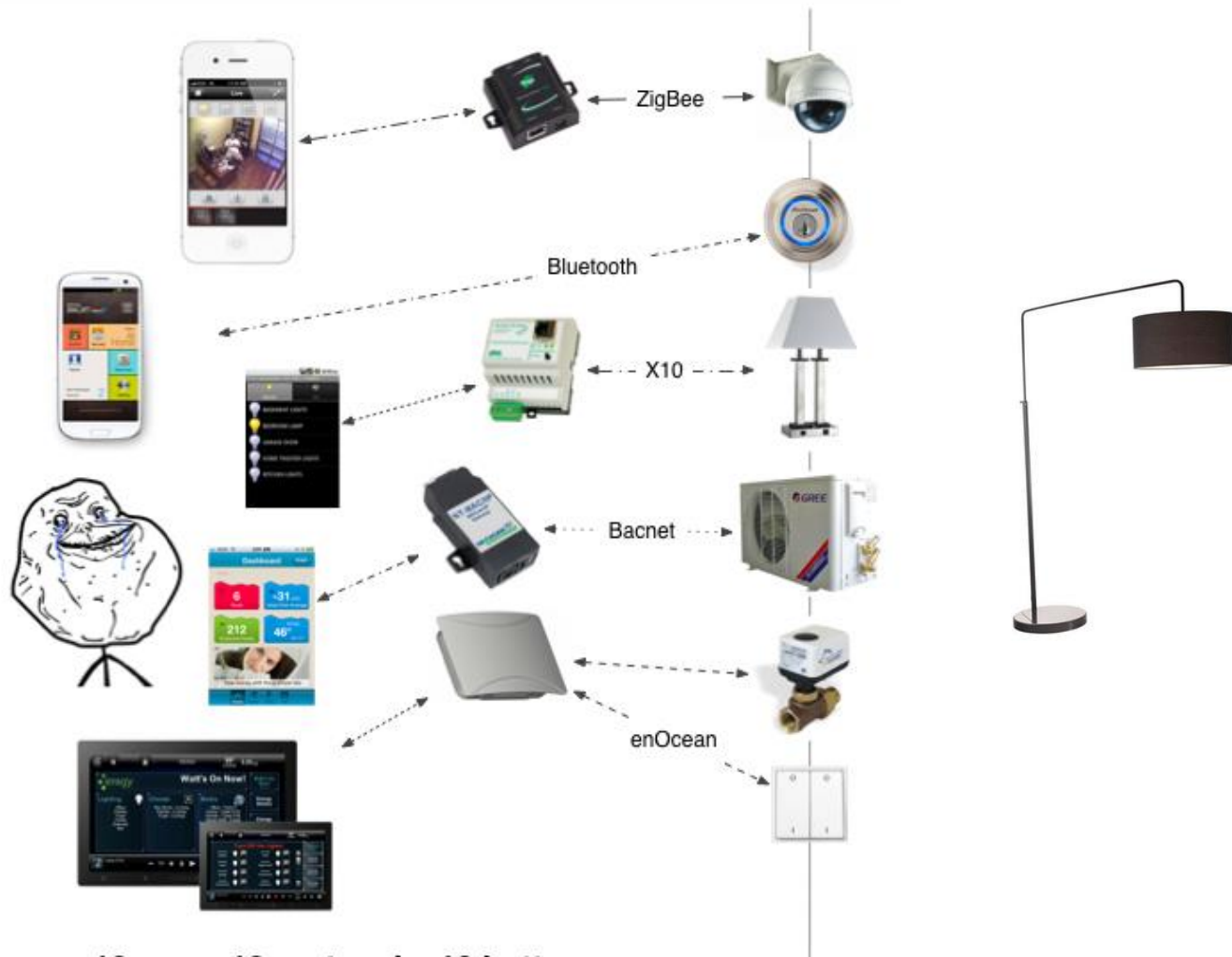
The IoT is a science primarily
focusing on creating the most
complex ways of turning lights on. ”

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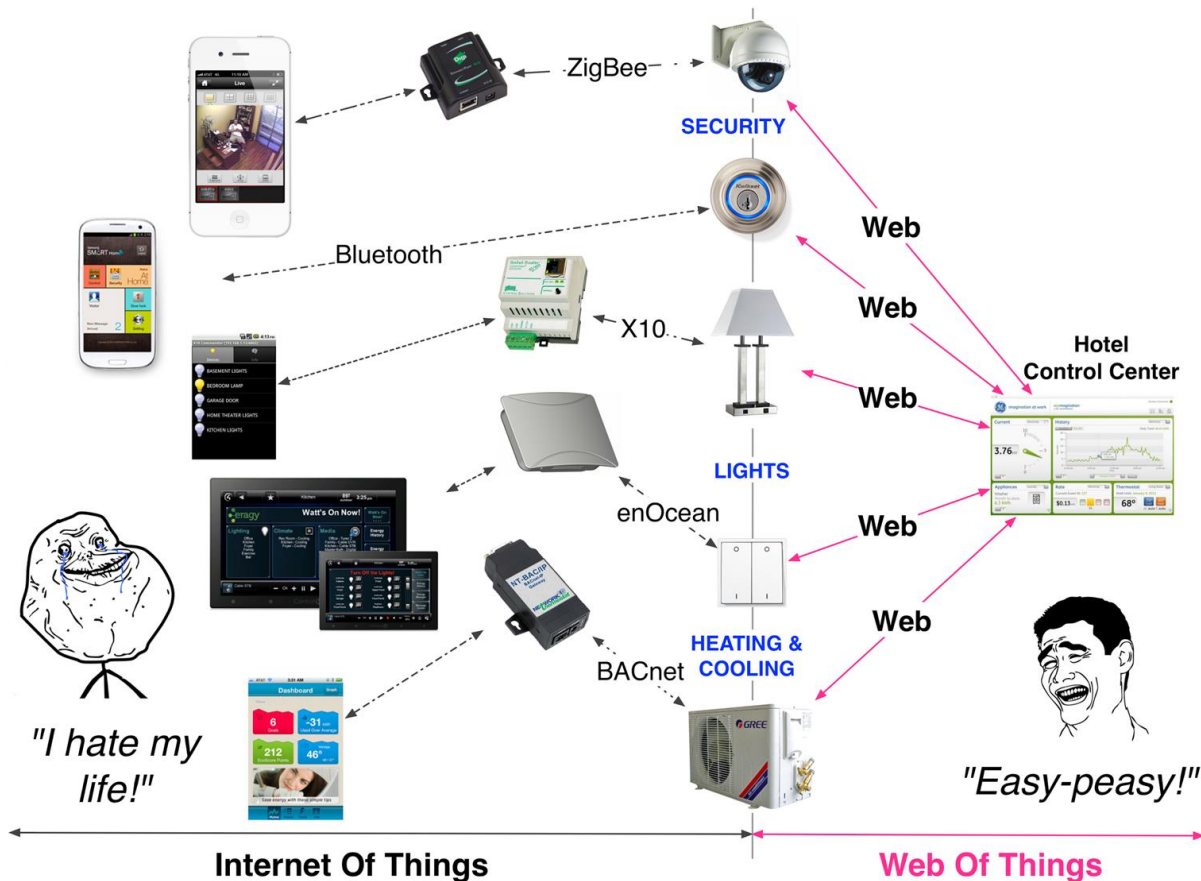
Pre IoT



Post IoT



Enters the Web of Things!



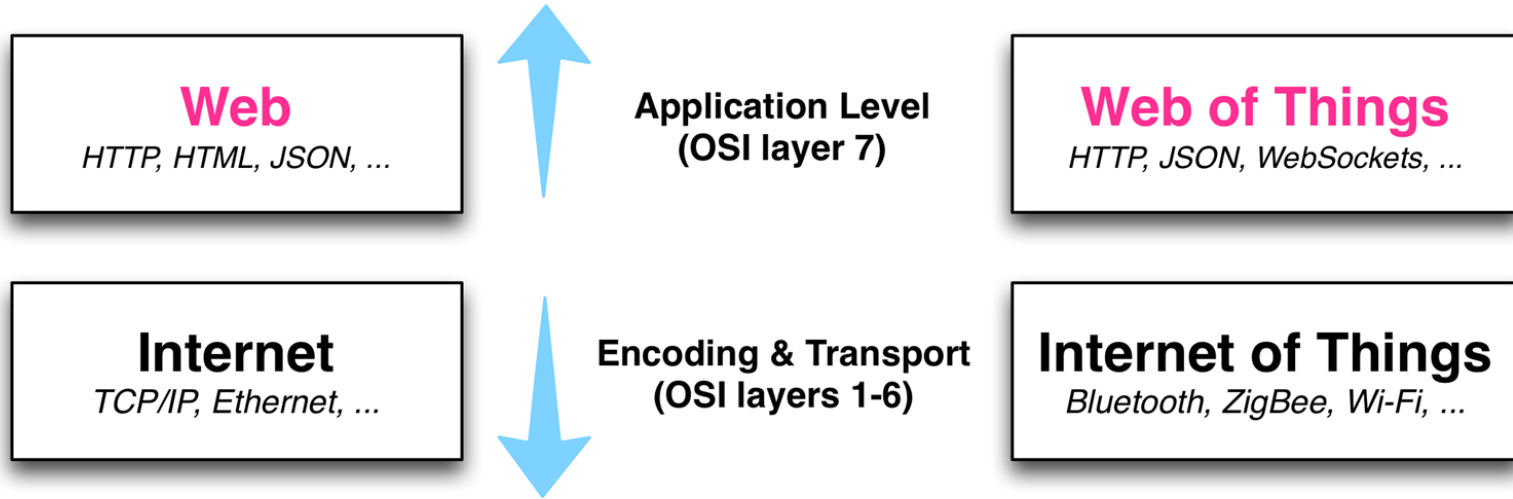
“

The Web of Things is a refinement
of the Internet of Things by
integrating smart things not only
into the Internet (network), but into
the Web Architecture (application)

”

[@domguinard]

*Easier to program, faster to integrate data and services,
simpler to prototype, deploy, and maintain large systems*



*More lightweight and optimized for embedded devices
(reduced battery, processing, memory and bandwidth
usage), more bespoke and hard-wired solutions*

Diss. ETH No. 19890

Diss. ETH No. 19891

Building Blocks for a Participatory Web of Things: Devices, Infrastructures, and Programming Frameworks

A dissertation submitted to the
ETH ZURICH

for the degree of
DOCTOR OF SCIENCE

Presented by
Mihai Vlad Trifa

Dipl. Ing. EPFL
Born on 12 March 1982, in Oradea, Romania
citizen of Bex (VD), Switzerland

accepted on the recommendation of
Prof. Dr. Friedemann Mattern, examiner
Prof. Dr. Cesare Pautasso, co-examiner
Prof. Dr. Gero Mühl, co-examiner

2011

A Web of Things Application Architecture - Integrating the Real-World into the Web

A dissertation submitted to
ETH ZURICH

for the degree of
DOCTOR OF SCIENCE

Presented by
Dominique Guinard

M.Sc. in Computer Science, University of Fribourg
born February 27, 1981
citizen of Switzerland

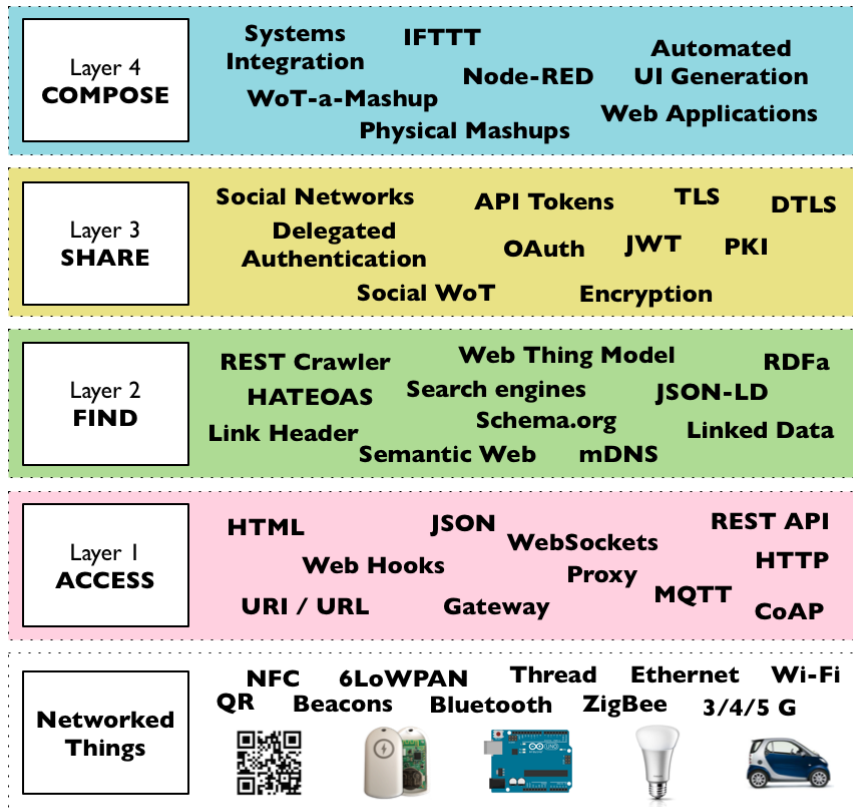
accepted on the recommendation of
Prof. Dr. Friedemann Mattern, examiner, ETH Zurich
Prof. Dr. Gustavo Alonso, co-examiner, ETH Zurich
Prof. Dr. Sanjay Sarma, co-examiner, MIT Boston

2011

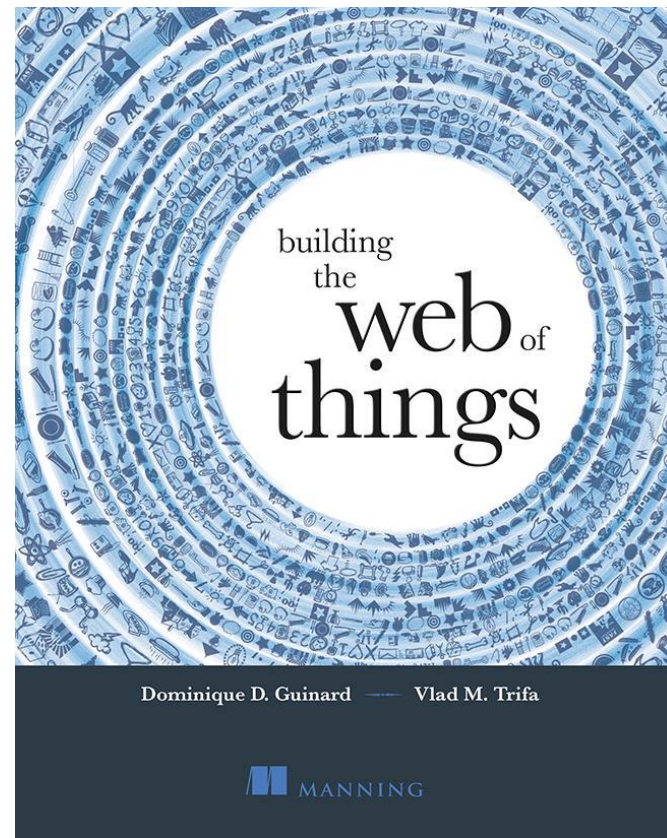
Dominique Guinard

A Web of Things Application Architecture – Integrating the Real-World into the Web.

PhD thesis No. 19891, ETH Zurich, Zurich, Switzerland, August 2011



Source: Building the Web of Things; book.webofthings.io
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39% off “Building the Web of Things”
with code “39guinard” on <http://manning.com>

Web Thing Model & Semantic Web



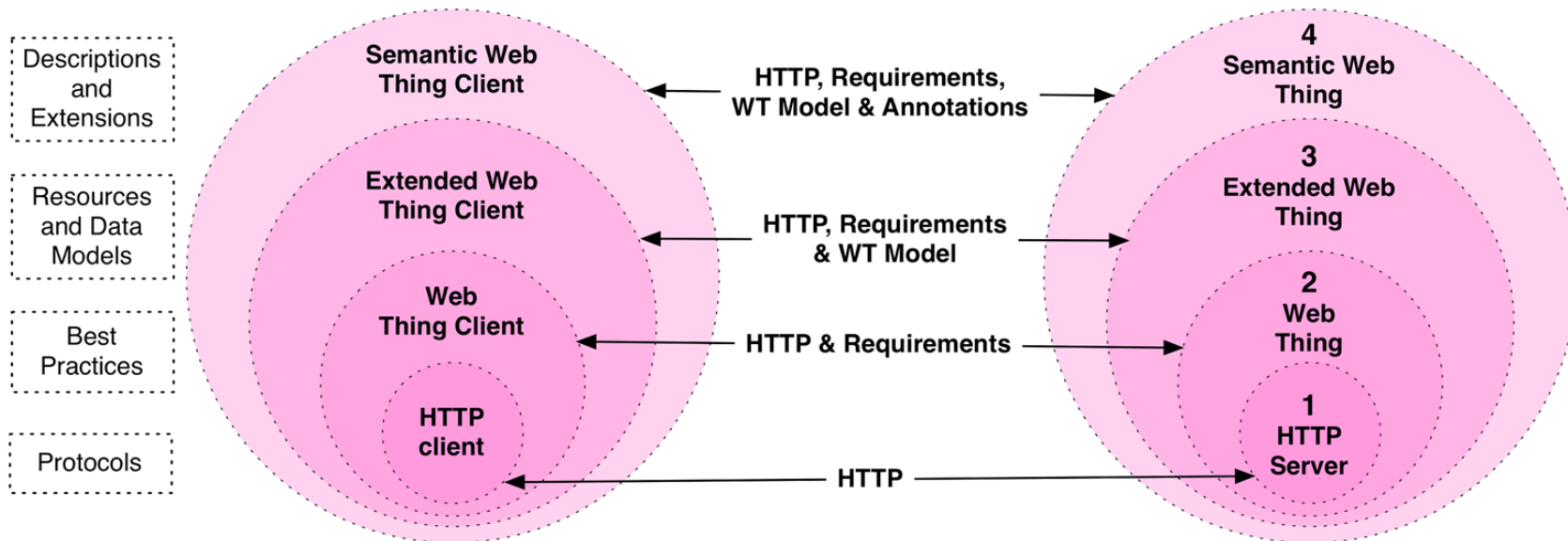
Member Submission

Web Thing Model

W3C Member Submission 24 August 2015

<http://model.webofthings.io>

<http://gateway.webofthings.io>



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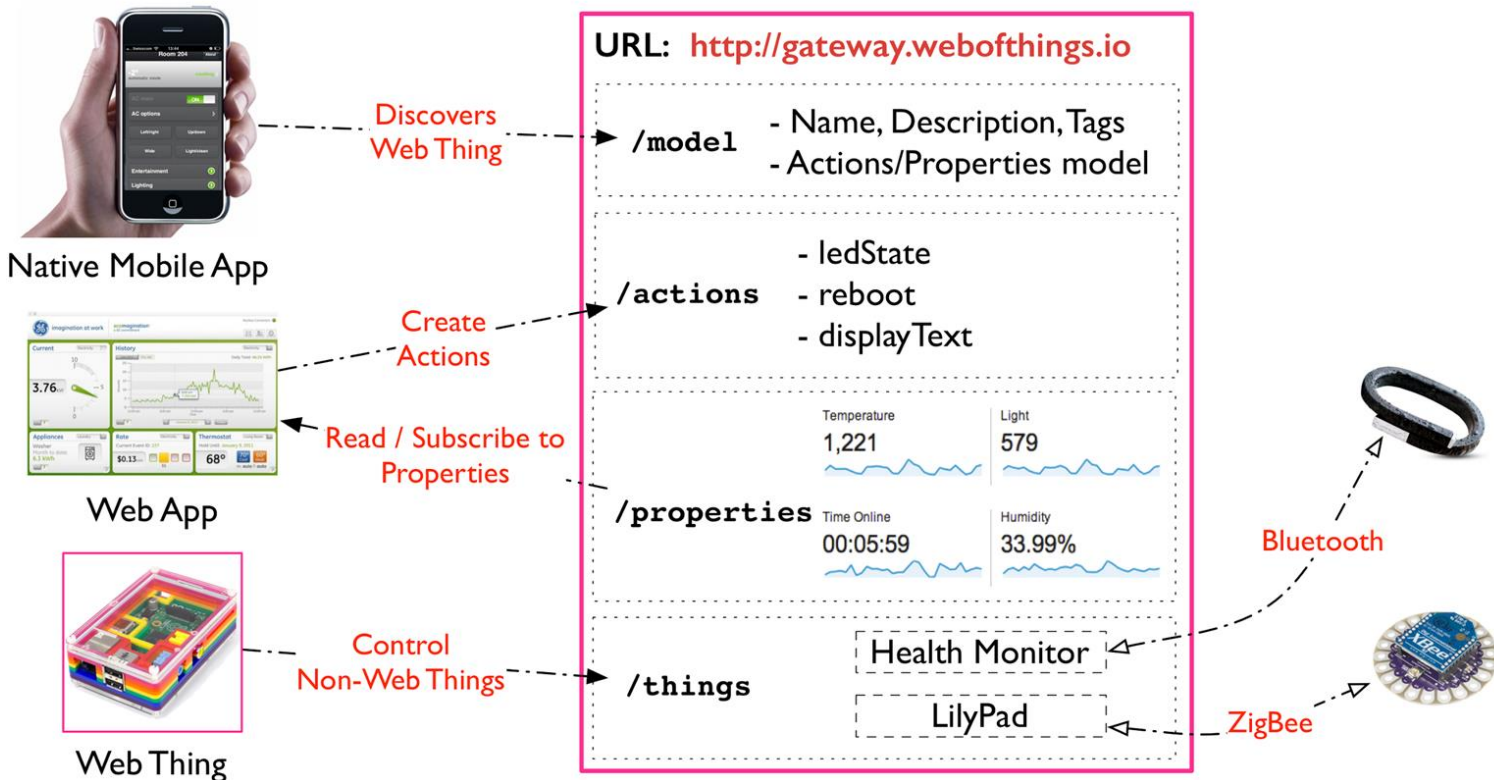
Web Thing Model Resources



Web Thing Clients

Web Thing

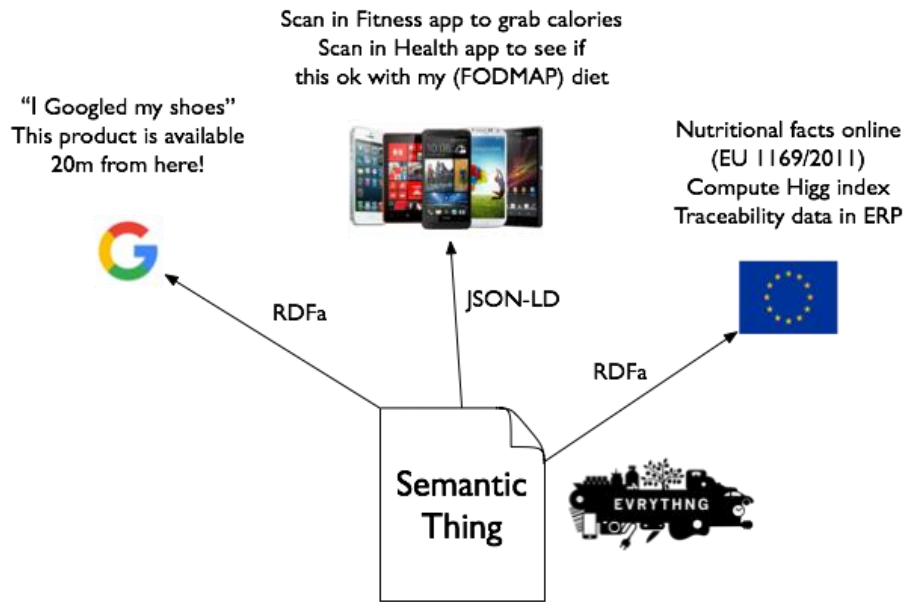
Non-Web Devices



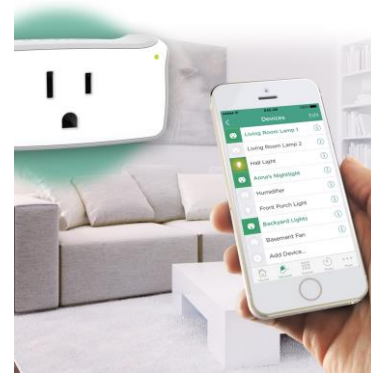
Say Hi to the Semantic Web (of Things!)



- Semantic extensions [via JSON-LD]
 - Enhance semantics: What is that Thing really?
 - Schema.org
- More details:
 - <https://www.w3.org/Submission/2015/SUBM-wot-model-20150824/#web-things-model>



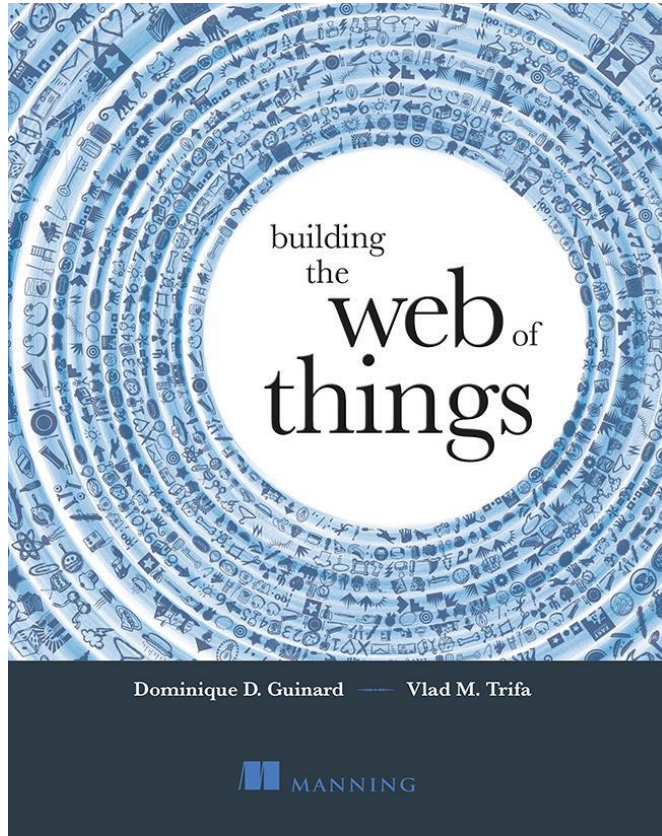
In use @EVERYTHNG on billions of products!



Some questions



- What do you think the Web can bring to the IoT?
- Do you think we will see convergence in IoT protocols?
- Why does interoperability matter?
- What future evolutions of the Web itself could benefit the IoT?
- What are the requirements for the interaction model exposed to applications?
- How to enable end to end trust and security across different IoT platforms?
- How to enable semantic interoperability (after explaining what that means) ?
- How to deal with variations across vendors and IoT standards in respect to capabilities?



Building the Web of Things Hands on technical workshop

Today:
4:15 - 6:00 PM Room 13

See also:
TagItSmart booth
@Exhibition Area

