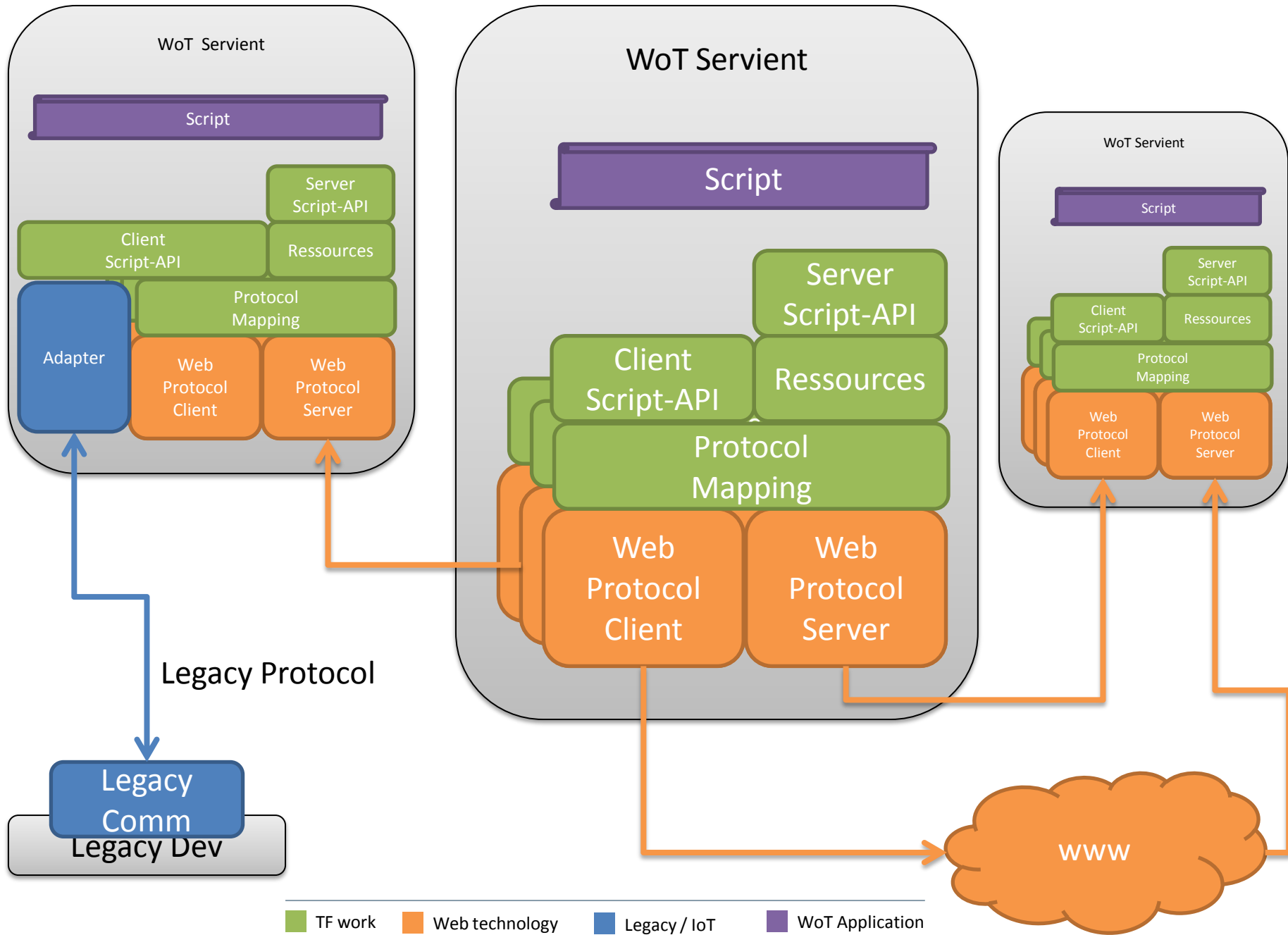# Joint meeting
IRTF T2T RG & W3C WoT IG

Report of W3C WoT IG
Task force on API and protocol mapping

by Johannes Hund

Current topics of TF-AP

- Technology Landscape
  - Relevant IoT resp. Web protocols and technologies
- Architecture
  - Reach consensus for an architecture model
- Use cases & Requirements
  - Collection and dissemination
- Resource Model
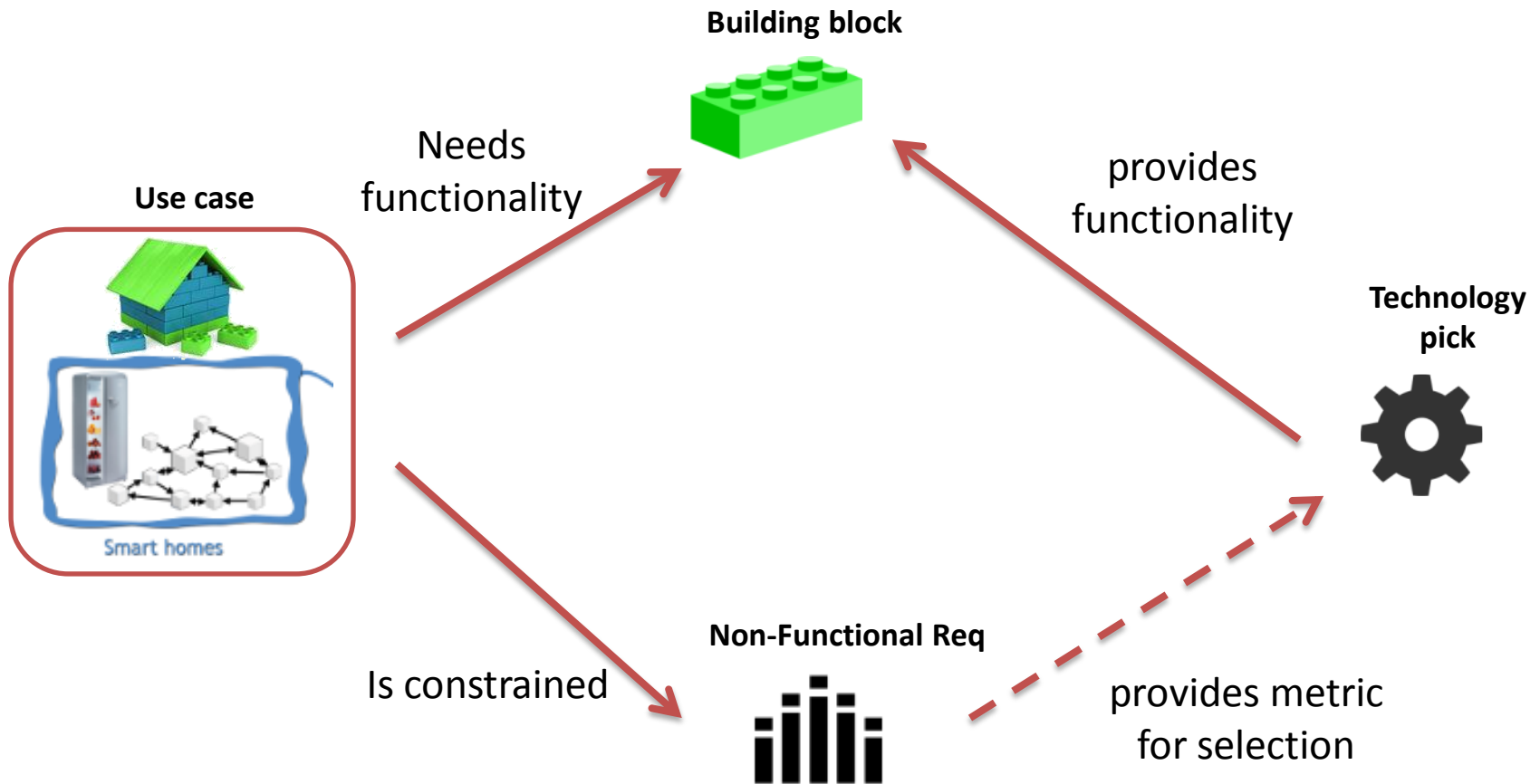 - Decomposition of web things into Properties, Actions and Events/Subscriptions

Architecture Model

WoT Servient

Script

Server Script-API

Client Script-API

Ressources

Protocol Mapping

Adapter

Web Protocol Client

Web Protocol Server

WoT Servient

Script

Server Script-API

Client Script-API

Ressources

Protocol Mapping

Web Protocol Client

Web Protocol Server

WoT Servient

Script

Server Script-API

Client Script-API

Ressources

Protocol Mapping

Web Protocol Client

Web Protocol Server

Legacy Protocol

Legacy Comm

Legacy Dev

WWW

TF work   Web technology   Legacy / IoT   WoT Application

Use cases in a web of things

Use case document

Document: http://w3c.github.io/wot/wot-ucr.html

Building block

Use case

Needs
functionality

provides
functionality

**Technology
pick**

Is constrained

Non-Functional Req

provides metric
for selection

Smart homes

Abstract Thing Model

Web Thing model

- Properties
  - Static or dynamic properties of the Thing
- Actions
  - Invocable actions on a thing
  - May or may not result in state change
- Subscriptions/Event Sources
  - Intention to be notified on a certain condition

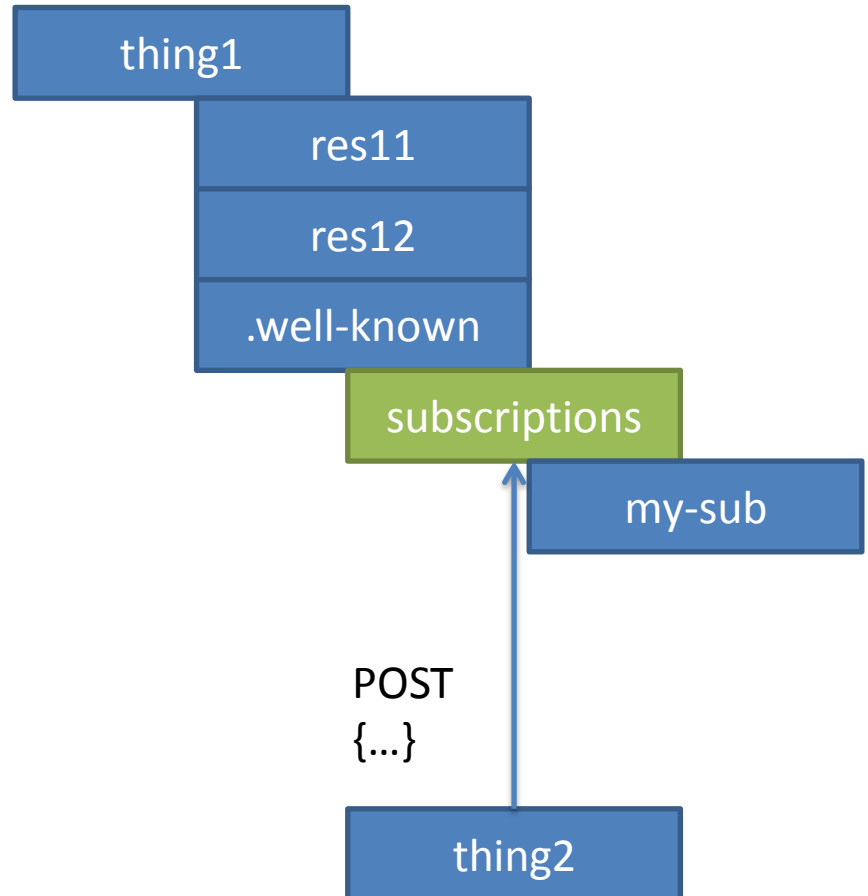# Subscription resource

Disucussion

Problem statement

Thing2 wants to „subscribe" to res12

- Observe works for single-resource in coap

- How to:
  - Observe if threshold is exceeded
  - Observe multiple resources
  - Set max frequency
  - Be compatible with HTTP
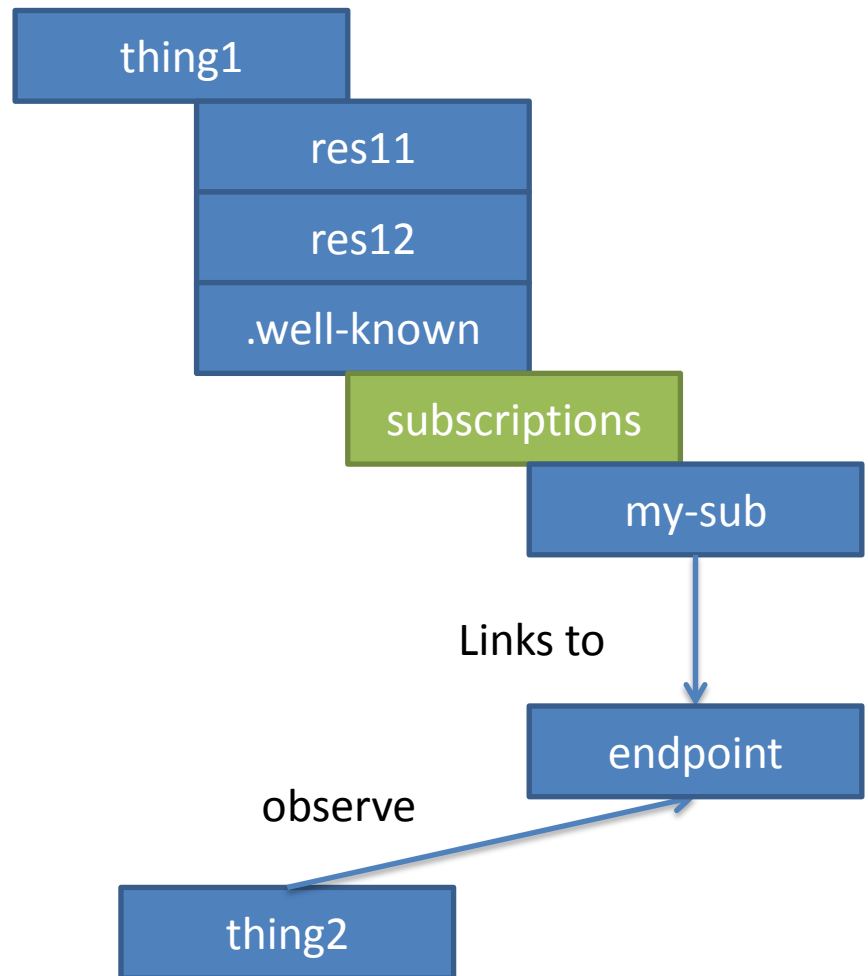 - Use reversed approach (á la PubSubHubbub)

thing1

res11

res12

- HTTP?
-Tell thing1 to PUT changes?
-Efficiently observe
   both res11 and res12?
- Conditional observe?

thing2
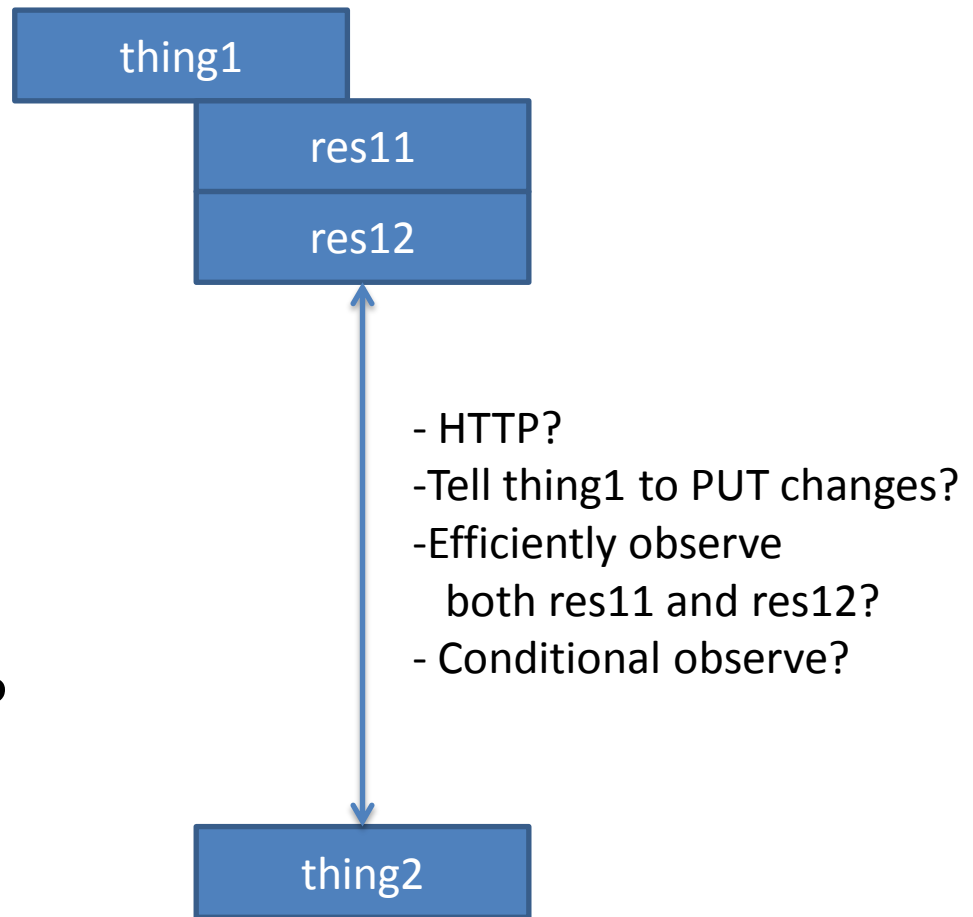
Solution sketch

- Define a media type and/or resource interface for managing subscriptions

- Comprises:
  - Links to observed resource(s)
  - Subscription constraints (threshold, frequency, sync of events, higher semantics)
  - Endpoints for subscription

thing1

res11

res12

.well-known

subscriptions

my-sub

POST
{...}

thing2

Dataflow

- Subscription resource links to endpoint
- Subscription resource is protocol-agnostic
- Endpoint is protocol-specific

Backup

Use case document - contributing

Document: http://w3c.github.io/wot/wot-ucr.html

Sources: https://github.com/w3c/wot

1. Go to repo w3c / wot

2. Fork the repo to create your local copy

3. Add & commit your changes to your fork of wot / ucr-doc / wot-ucr.xml

4. Create pull request   Discuss and review the changes in this comparison with others.

5. The pull request is Merged

6. The document is automagically updated