INTRODUCING APACHE UNOMI

SERGE HUBER, CTO, SHUBER@JAHIA.COM

1

ABOUT ME

jahia

Co-founder & CTO of Jahia

First time at JavaOne in 2001

Apache committer

Coder at heart

INTRODUCING

THE APACHE UNOMI CONTEXT SERVER

GET TO KNOW ME

Introducing Apache Unomi - JavaOne 2015 - October 26th 2015

ONE WAY TO LOOK AT IT

AKA USING VERY BIG FONTS

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> " A FRONT-END FOR USER CENTRIC BIG DATA TECHNOLOGIES.
>
> —
>
> WITH BUILT-IN DATA PRIVACY "

THE APPROACH

WE ARE NOT ALONE

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OASIS

The Context Server
Standard

**DATA
PRIVACY**
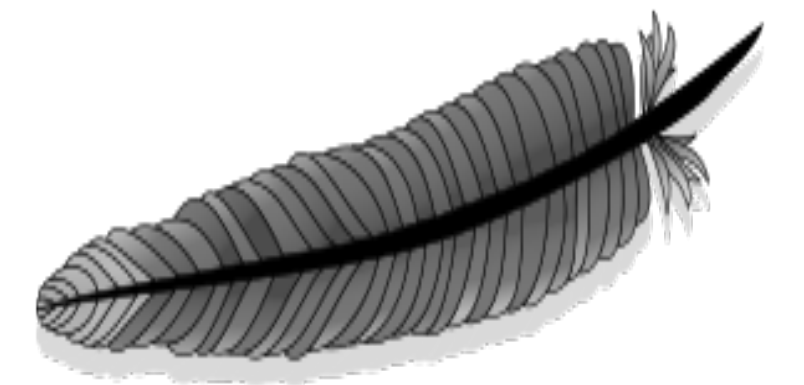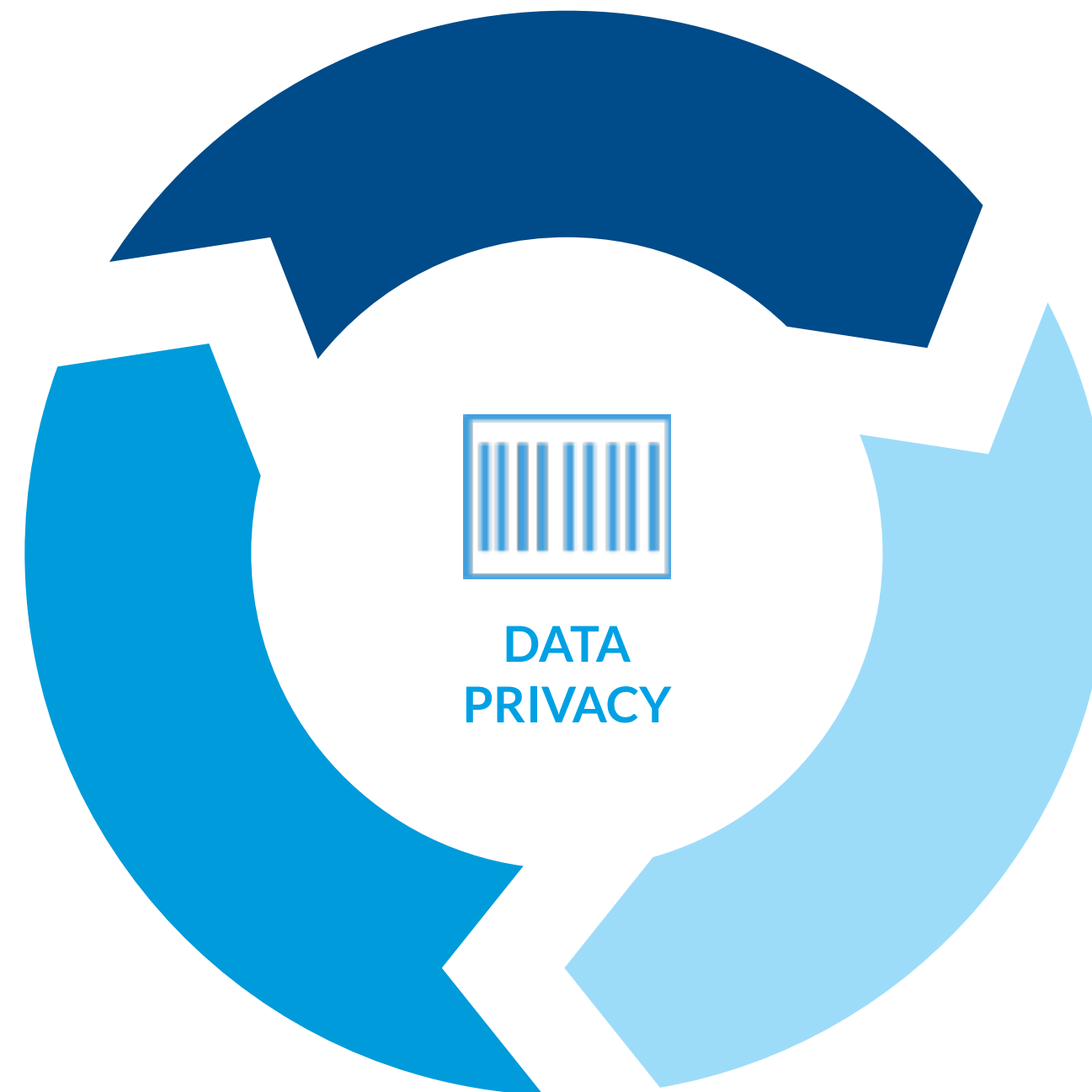
Apache Unomi
Reference Implementation

Two trusted, solid and recognized communities

TESTIMONIALS

I LOVE WHEN PEOPLE APPROVE

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"

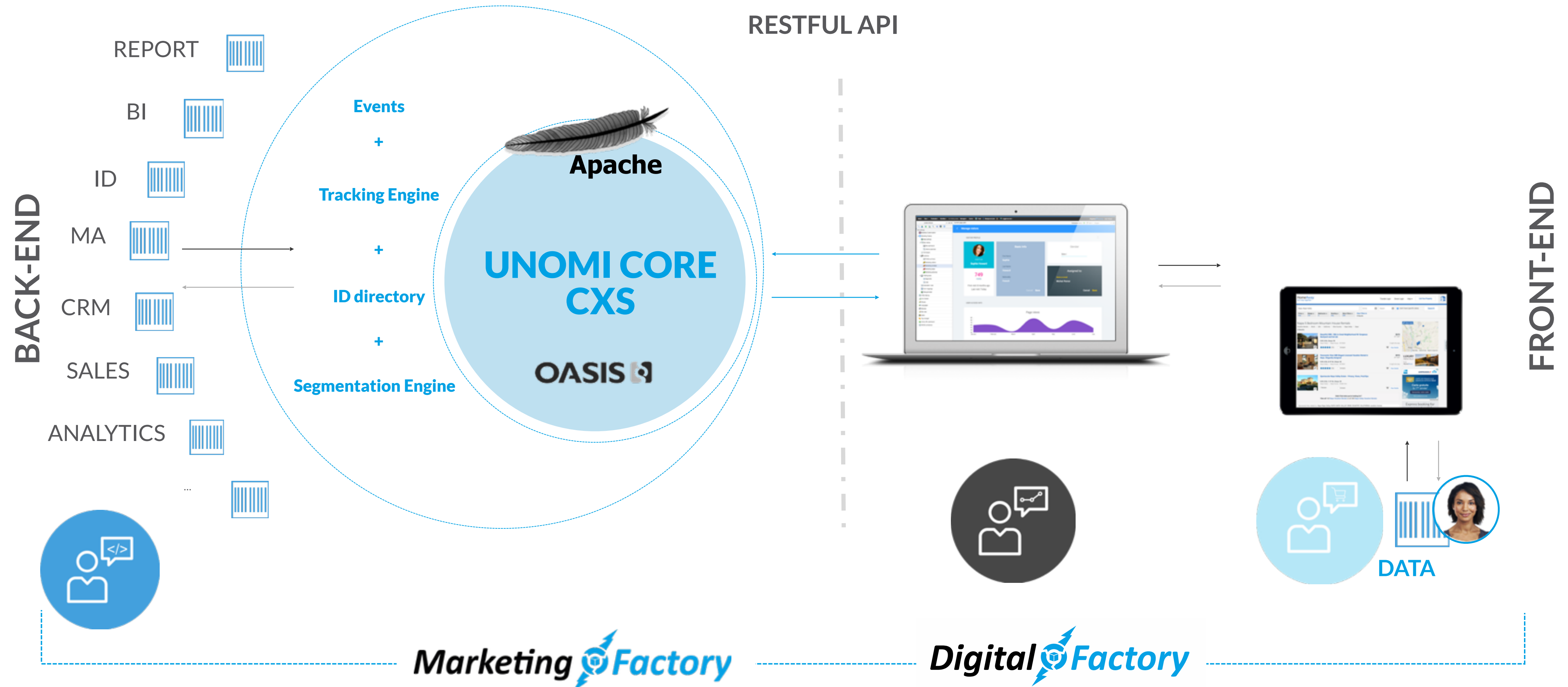# *VITAL* STANDARDIZATION PROJECT

—

LAURENT LISCIA, CEO OF OASIS

"

OASIS

EXPECTATIONS VS REALITY

DO YOU REALLY KNOW ME ?

EXPECTATIONS

REALITY

BI

REPORT

ID

SALES

MA

CMS

@

CRM

SUPPORT

ANALYTICS

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CLEAN & OPEN ARCHITECTURE

THE BIG PICTURE

RESTFUL API

REPORT

BI

ID

BACK-END

MA

CRM

SALES

ANALYTICS

...

Events
+
Tracking Engine
+
ID directory
+
Segmentation Engine

Apache

UNOMI CORE
CXS

OASIS

FRONT-END

DATA

Marketing Factory

Digital Factory

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CONTEXT SERVER SPECIFICATION

JOIN US NOW

USE CASES

DOMAIN MODEL

REST API

OASIS

Still on-going, join now to make it easier to fit with your solutions
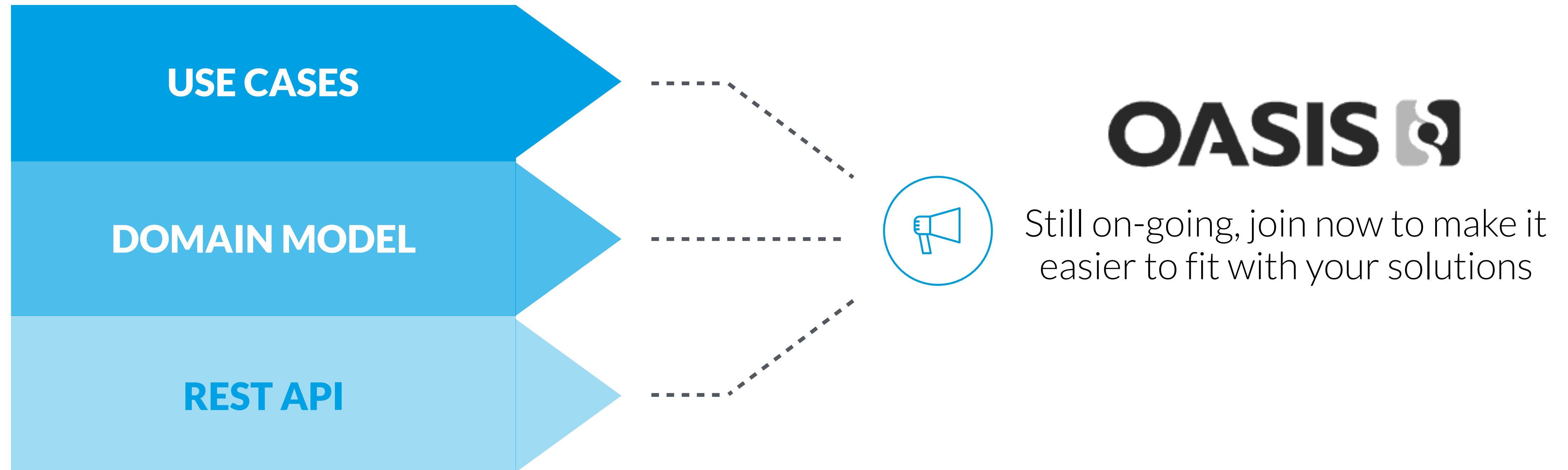
UNOMI FUNCTIONALITIES

MORE THAN JUST KNOWING ME

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User tracking

Privacy management

Reporting

Profile (visitor,contact,leads) management and export

Event tracking

UNOMI

A/B testing

Goal tracking, scoring

Segmentation

Form Input tracking

Download tracking

Impersonification (personas)
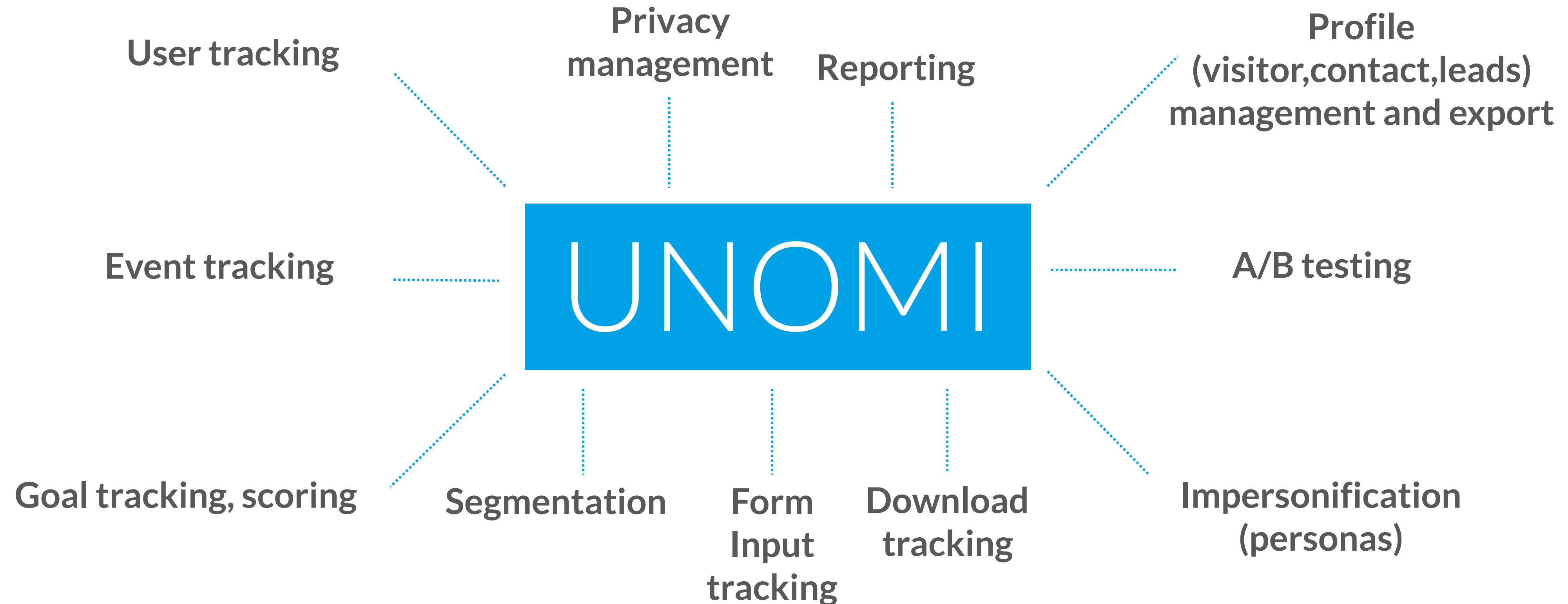
UNOMI ARCHITECTURE

VIEW FROM THE HILL

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APACHE KARAF

APACHE CXF

REST API

OSGI SERVICES

PERSISTENCE SPI (SERVICE PROVIDER INTERFACE)

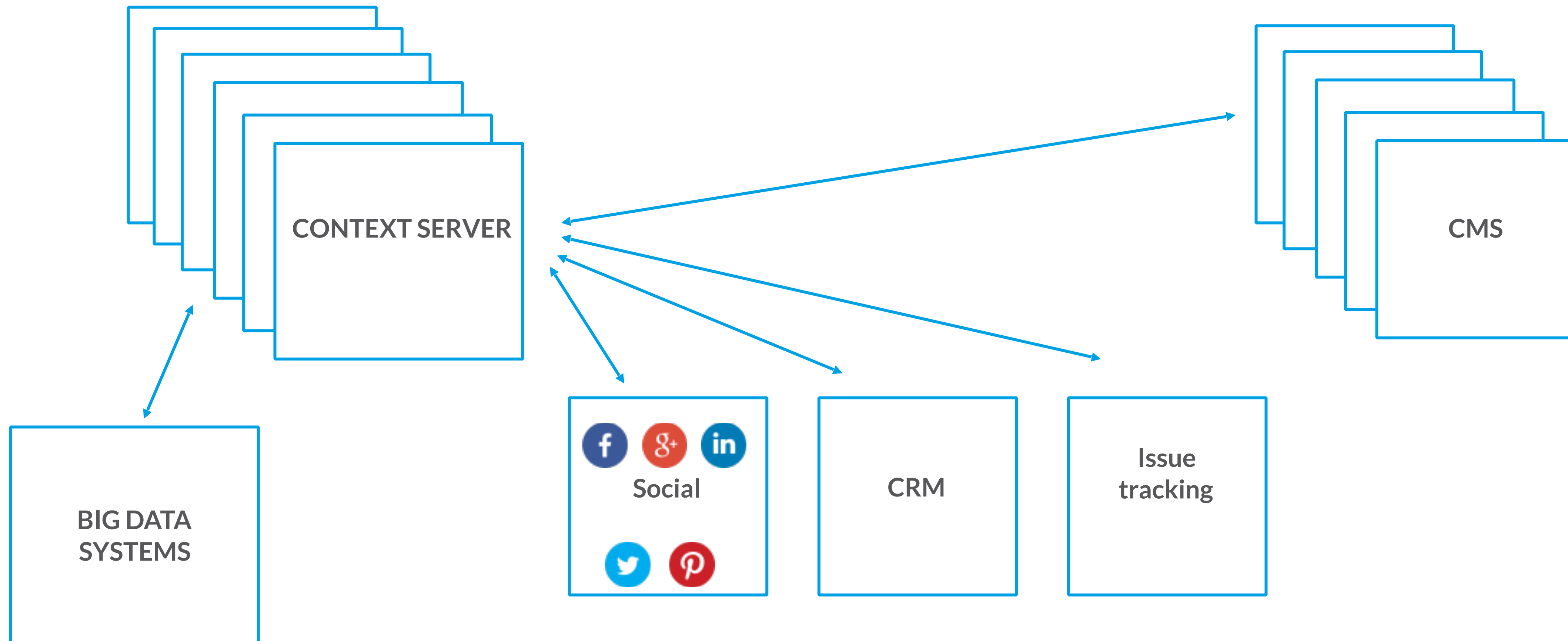### PERSISTENCE IMPLEMENTATION (ELASTICSEARCH, …)

INPUT/OUTPUT

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CONTEXT SERVER

EVENTS

CONTEXT

RULES	SEGMENTS	PROFILES

CONDITIONS

ACTIONS

BIG DATA FRAMEWORKS
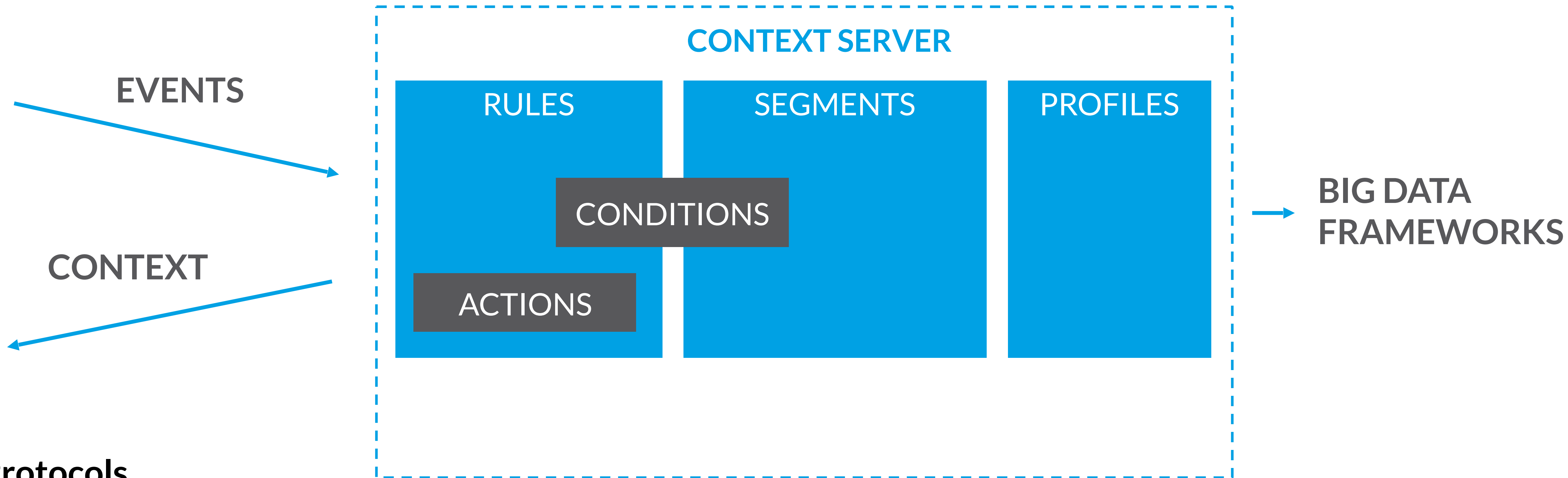
Protocols
HTTP REST + JSON

SCALABILITY

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CONTEXT SERVER

CMS

BIG DATA SYSTEMS

Social

CRM

Issue tracking

ONE IMPORTANT THING

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PRIVACY

THE GOOD, THE BAD AND THE UGLY

privacy != cloud ?

PRIVACY: DO IT ALL YOURSELF

BECAUSE I'M ALWAYS RIGHT

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Are you using recognized and safe standards?

How do you protect against hackers?

Can you trust your software?

Is your network secure?

How do you give users control over their data?

Can you trust your backups ?

Mobile support?

PRIVACY : TRUSTING OTHERS

WITH GREAT PRIVACY COMES GREAT RESPONSIBILITY

ETHICS

SECURITY

TRUST IS COMPLEX

AUDITING

TRANSPARENCY

CONTROL

ACCESS

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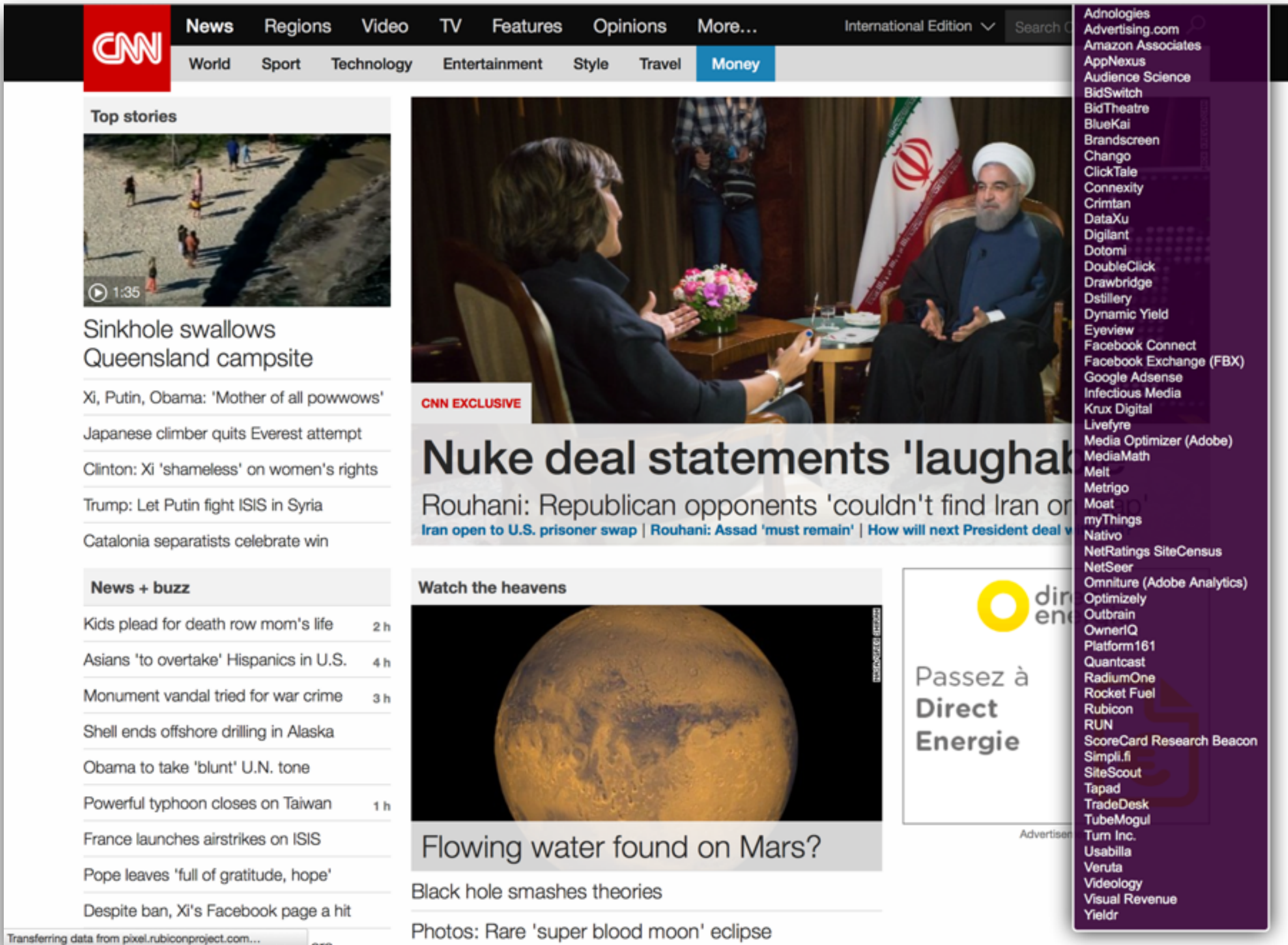# YES, TRUST MATTERS

EXAMPLES ARE TOO EASY TO FIND

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privacy != marketing?

ONE EXAMPLE

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ONE WEBSITE
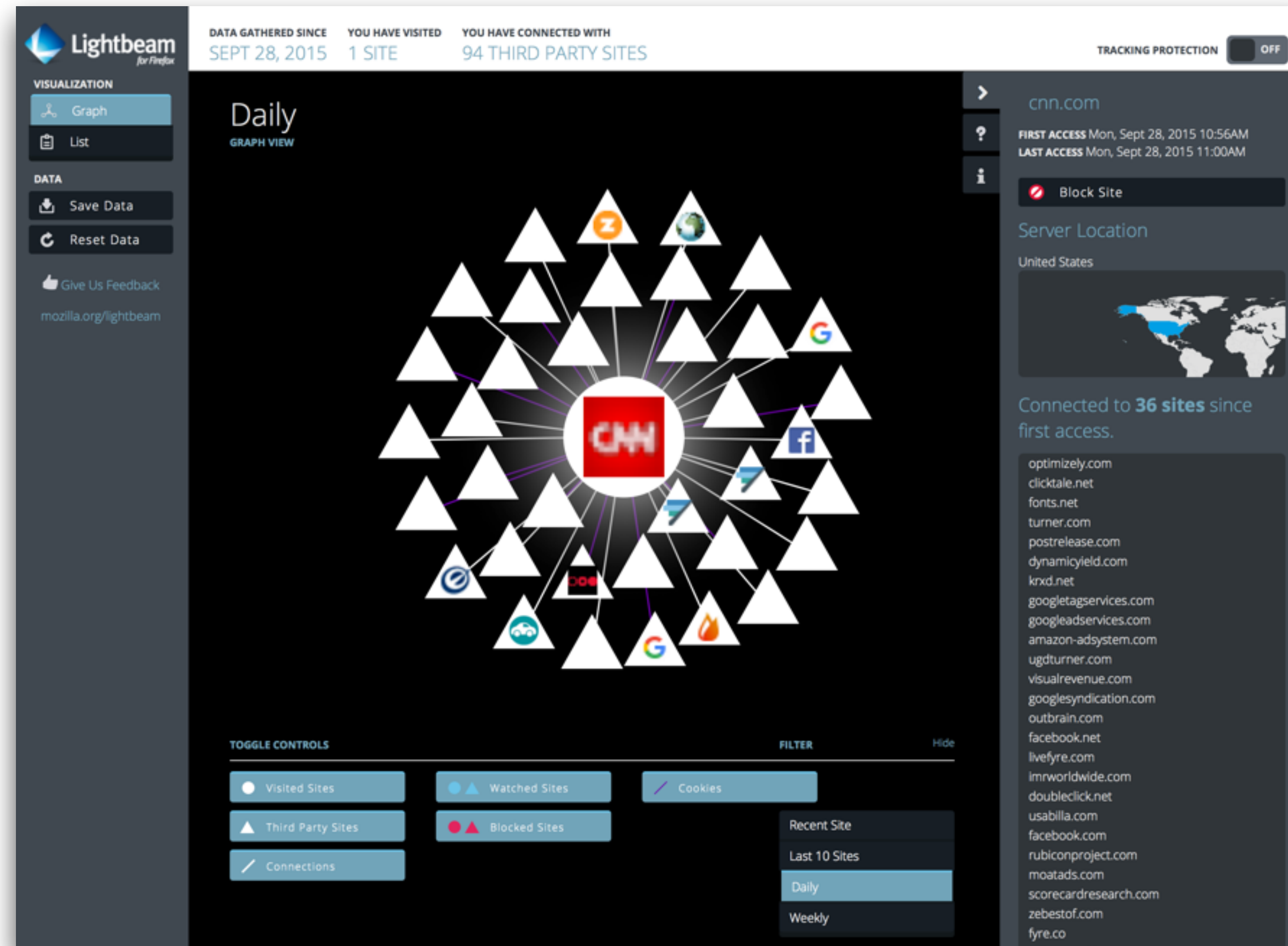66 EXTERNAL TRACKERS

DATA CONTROL LOSS

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Where is the data sent?

Customers

DATA
PRIVACY

**How is the
data used?**

**Is opt-in
or opt-out
available?**

**What data
is collected?**

**How is the sent
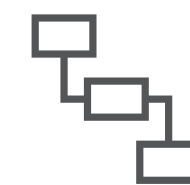data used?**

WHAT THEY REALLY DO

MORE THAN WE THINK

Collect data

Mine data

Send data to third parties

Sell data analysis

Some of this might be acceptable, but you need to know about it and have some control over it

UNOMI + OASIS CONTEXT SERVER

NO UNILATERAL APPROACH HERE

	OASIS Context Server	Apache Unomi	Others
Transparency	Yes	Yes	No
REST API	Yes	Yes	Yes
Community	Growing	Growing	?
SSL	Planned	Yes	Some
Open source	Yes	Yes	No
Free	Yes	Yes	No
Completed	No	No	Yes
Technology stack	Any	Java (OSGi)	Any
Vendor support	Multiple	Apache Community	Yes
Released	2016	Very soon	Yes
On-premise	Yes	Yes	Mostly no
Cloud	Yes	Yes	Most
OEM Available	Yes	Yes	Probably not

APACHE STATUS

I WANT IT ALL AND I WANT IT NOW

UNOMI
ANNOUNCED

Unomi publicly announced at JahiaOne 2015

23 APRIL 2014

23 SEPT 2015

20 OCT 2015

12 JUNE 2015

5 OCT 2015

GITHUB INITIAL
IMPORT

Project got started directly under Apache License

INCUBATION
PROPOSAL

Submission as a new project

INCUBATION
ACCEPTED

Incubation vote closed, 8 binding votes

INCUBATOR
PODLING

Resources created

COMMERCIAL APPLICATIONS

MAKING MONEY WITH SOMETHING FREE

Angular UI built on top of Apache Unomi REST services
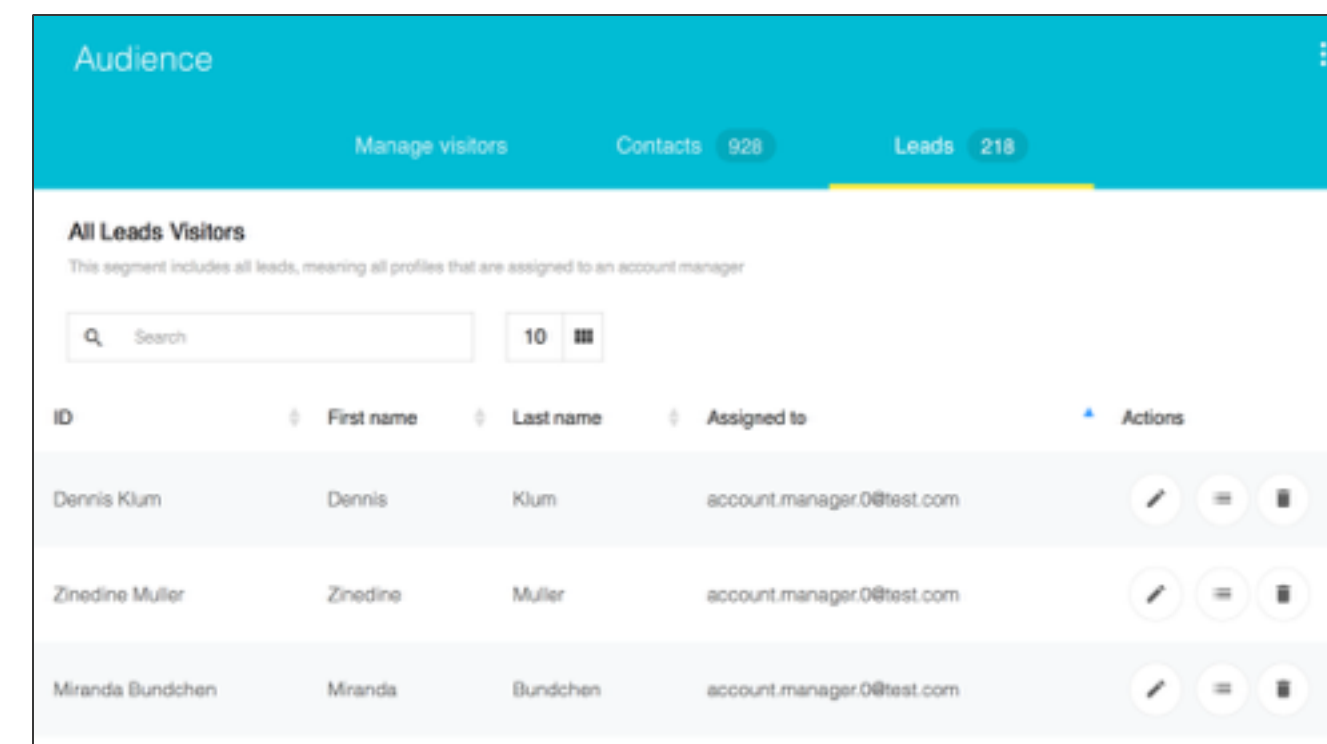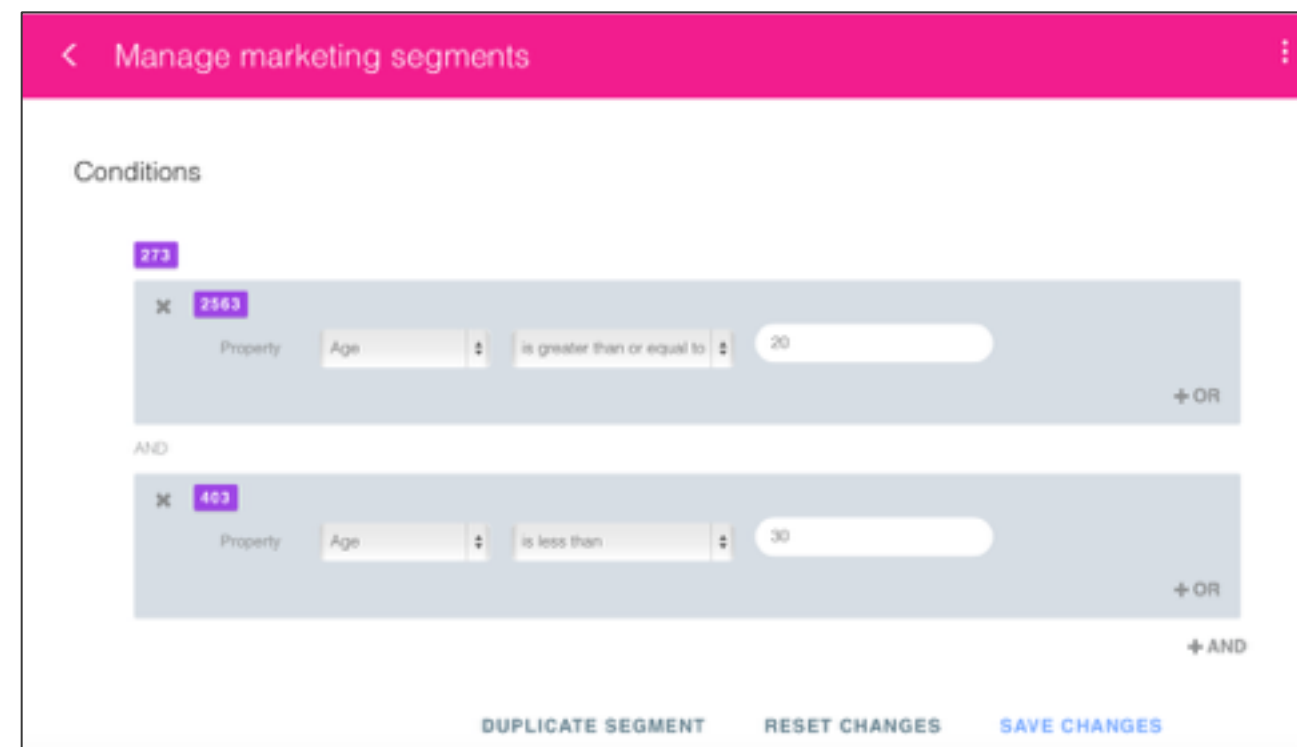
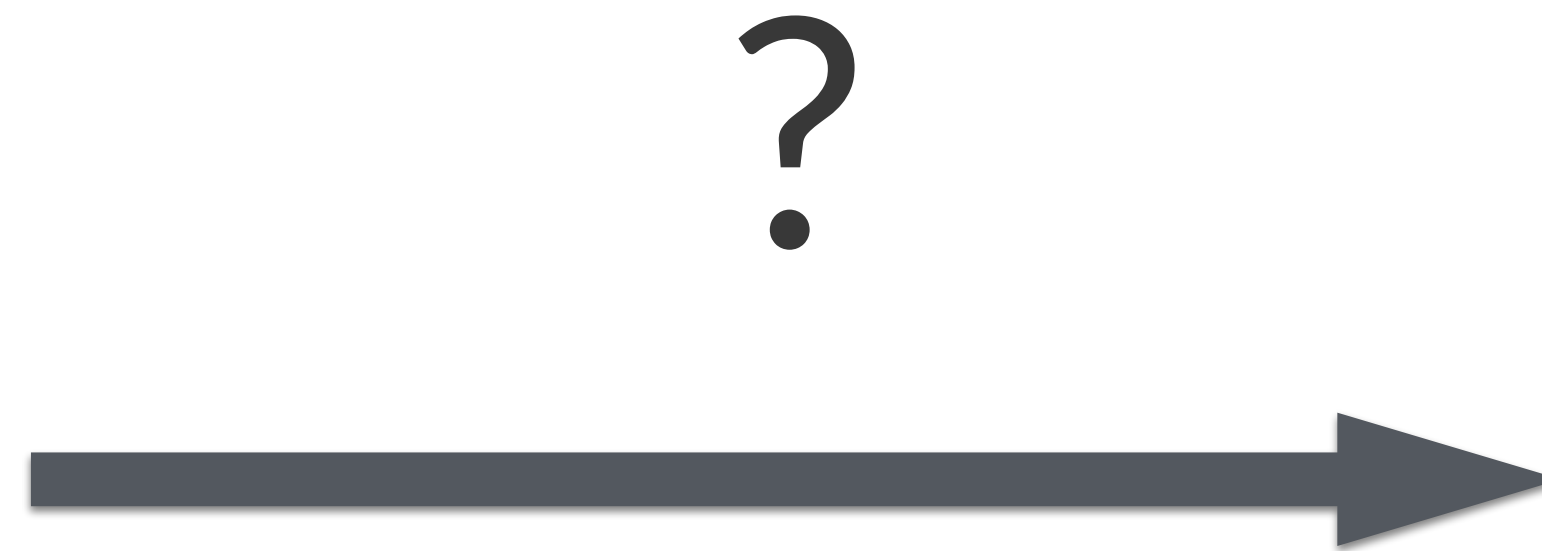First (known) application:
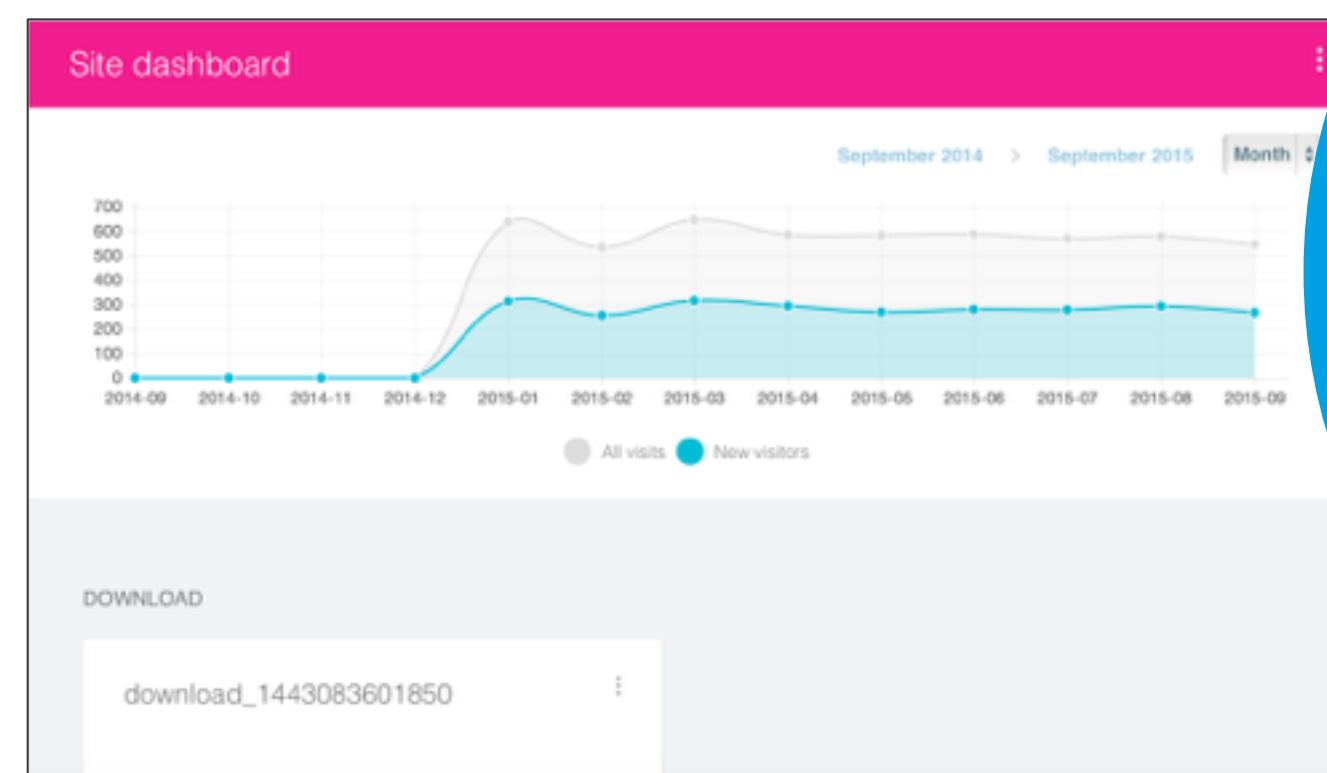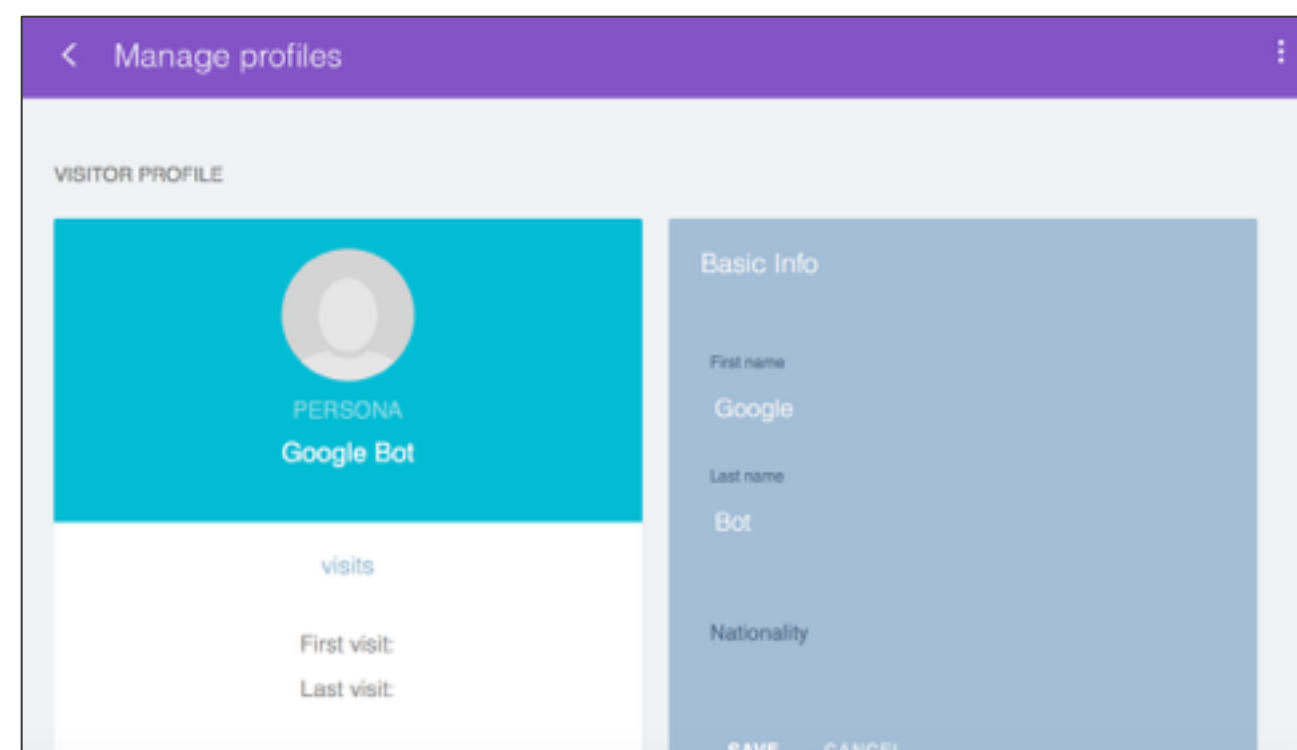
**Build your own !
It's the beauty
of the Apache
License !**

CURRENT TRENDS

ISN'T SOMETHING MISSING?

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?

**Internet
of Things**

→

BigData

THE MISSING PIECE

User
Context

**Internet
of Things**

→

BigData

THE MISSING PIECE

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User Context

Internet of Things

Web browsers

Mobile devices

→

BigData

THE MISSING PIECE

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User Context

Internet of Things

Web browsers

Mobile devices

→ **Apache Unomi**

User Context

Internet of Things

Web browsers

Mobile devices

Apache Unomi

BigData
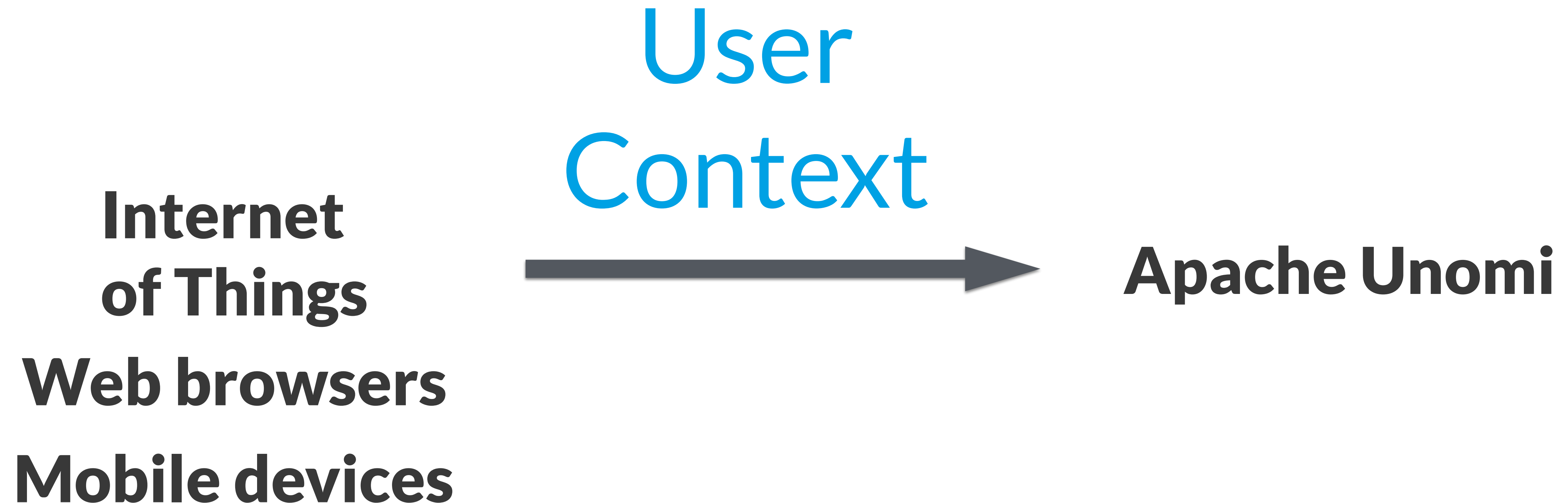
A IOT SHOPPING EXAMPLE

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Improving shopping experience

Reduce health care costs

Brick-and-mortar to online digital transformation

Great for indoor positioning

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Enter shop

Browse soda aisle

1

2

3

Browse alcohol aisle

Remember: client has nothing in cart !

Digital signage in alcohol aisle

UNOMI INTEGRATION DEMO

LET'S TAKE SOME RISKS!
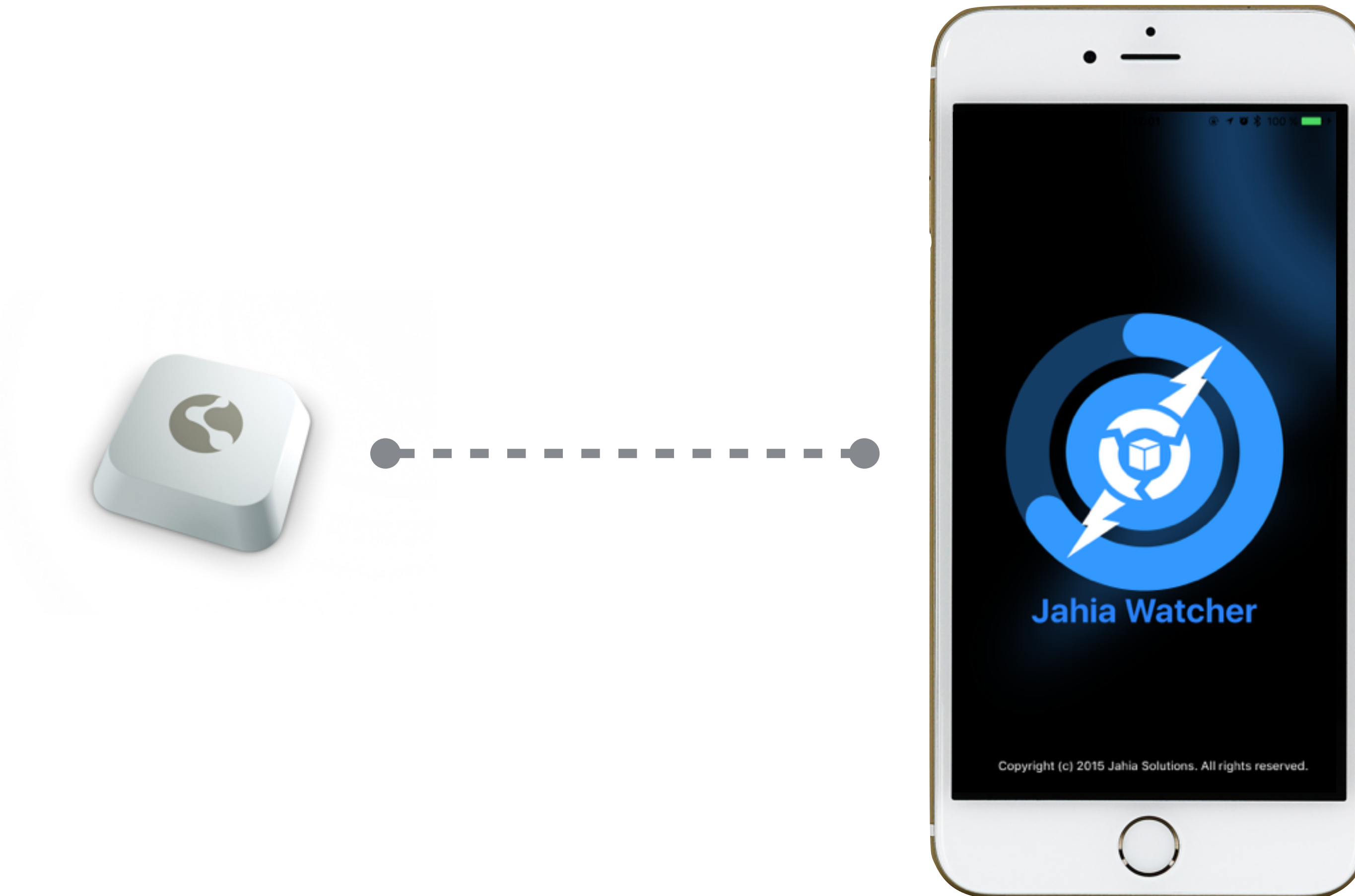
HOW IT WORKS

RELAYING SIGNALS

Unomi Context Server

Content Server (Jahia Digital Factory)
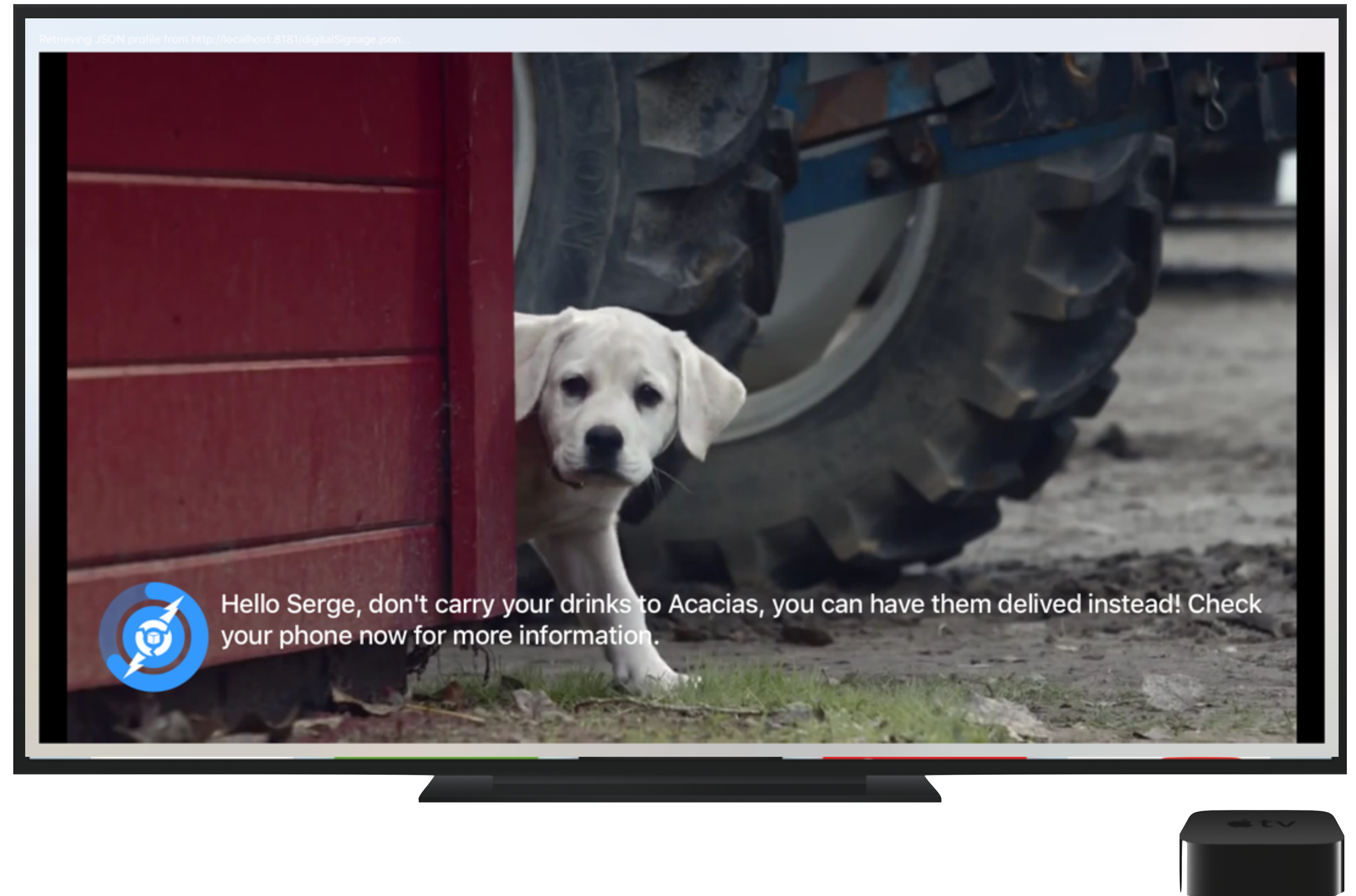
Push Notification service

DIGITAL SIGNAGE UPDATES

WATCHING TV CAN PAY SOMETIMES

Unomi Context Server

IMPLEMENTATION TIMELINE

COME ON, GIVE ME ONE MORE WEEK!

OCTOBER 5th, 2015

Project start after ApacheCon 2015 return

CODE, CODE, CODE

Integration Apache Unomi with all IoT

OCTOBER 19th, 2015

Implementation completed

OCTOBER 26th, 2015

Demonstration and presentation

IMPLEMENTATION START POINT

YOU ALWAYS NEED A PLACE TO START

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1 ---- **Jahia Watcher Mobile App**

Integrated with Digital Factory, but no support for Unomi or beacons ---- **1**

2 ---- **Jahia Marketing Factory**

Includes Apache Unomi ---- **2**

3 ---- **Jahia Digital Factory**

Content management system and main authentication ---- **3**

To Do:

- [ ] Unomi iBeacon plugin
- [ ] Convert code to Swift 2.0
- [ ] Privacy mobile app screen
- [ ] iBeacon self-training
- [ ] tvOS self-training
- [ ] New Context server settings screen
- [ ] Unomi native mobile integration
- [ ] Unomi Digital Signage plugin
- [ ] Unomi iOS push notification plugin
- [ ] tvOS Digital Signage App

EXTENDING UNOMI

THINKING OUTSIDE "OUT OF THE BOX"

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Digital Signage plugin

iBeacon plugin

iOS Push notification plugin

Public REST API

Admin REST API

Apache Unomi Core

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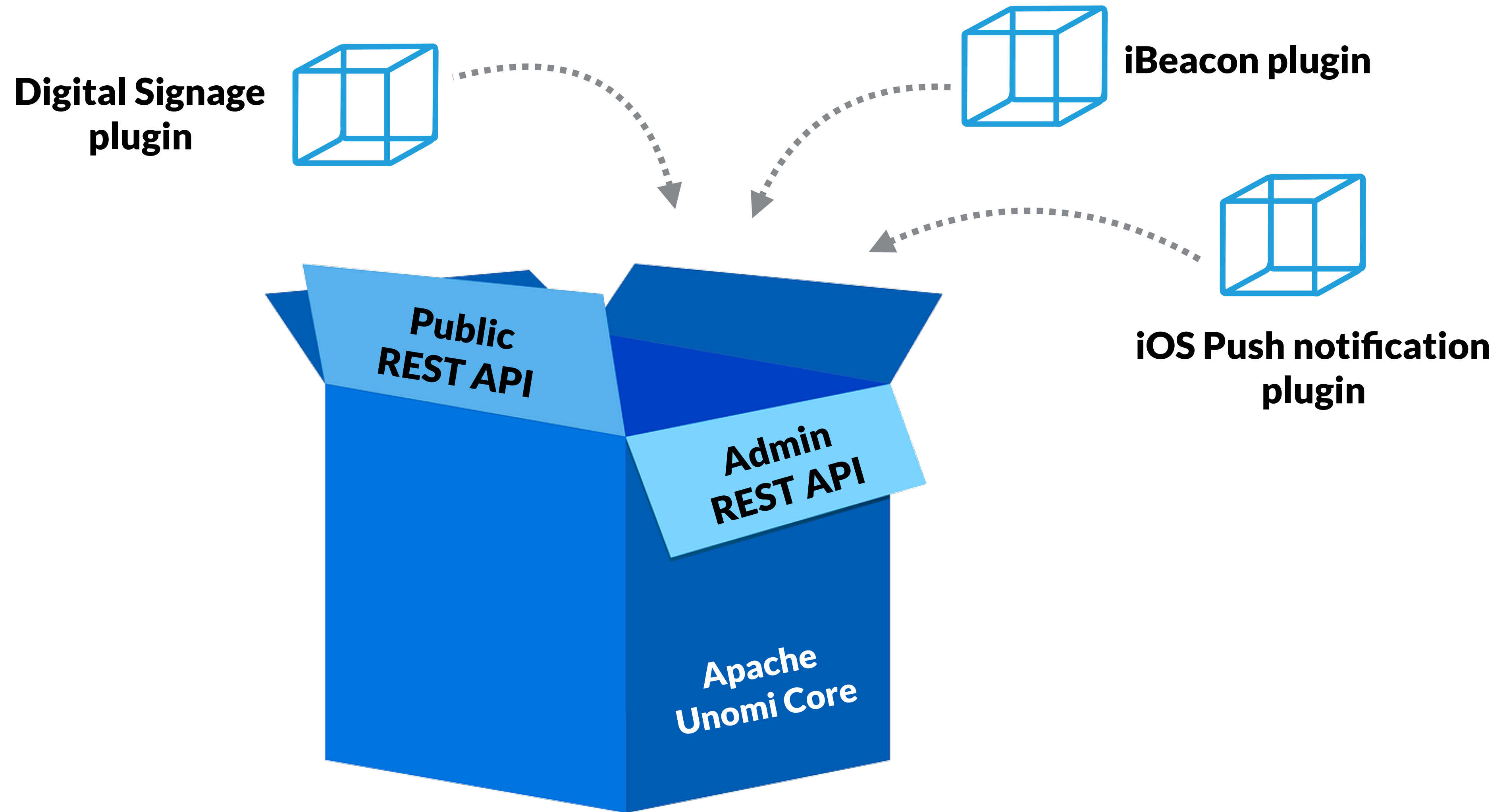
```json
{
 "metadata" : {
   "id": "alcoholicBeveragesInterestIncrement",
   "name": "Increment profile interests in alcoholic beverages",
   "description" : "Increment profile interests in alcoholic beverages"
 },

 "raiseEventOnlyOnceForSession":false,

 "condition" : {
   "type": "beaconInRangeEventCondition",
   "parameterValues": {
     "targetId" : "41692.37593"
   }
 },

 "actions" : [
   {
     "type": "incrementSpecifiedInterests",
     "parameterValues": {
       "interestsToIncrement" : {
         "alcoholicBeverages" : 1
       }
     }
   }
 ]

}
```

BEACON UNOMI RULES

```json
{
 "metadata" : {
  "id": "interestedInAcmeDrinks",
  "name": "Update digital signage and notify user interested in ACME drinks",
  "description" : "Update digital signage and notify user interested in ACME drinks"
 },

 "condition" : {
  "parameterValues": {
   "subConditions":[
    {
      "type": "profileInterestEventCondition",
      "parameterValues":{
       "interestName":"alcoholicBeverages",
       "value":"10"
      }
    },
    {
      "type": "profileInterestEventCondition",
      "parameterValues":{
       "interestName":"nonAlcoholicBeverages",
       "value":"10"
      }
    }
   ],
   "operator" : "and"
  },
  "type": "booleanCondition"
 },

 "actions" : [
   {
     "type": "setDigitalSignageProfile",
     "parameterValues": {
     }
   },
   {
     "type": "sendNotification",
     "parameterValues": {
     }
   }
 ]

}
```

TVOS CHALLENGES
OTHERWISE IT WOULD JUST BE SO EASY

Still in beta

No web browser !

No push notifications !

Limited documentation

No hardware to test on (only simulator)

LINKS

https://github.com/Jahia/unomi

http://incubator.apache.org/projects/unomi.html

WHERE?

MORE LINKS

jahia.com/products/marketing-factory

https://www.oasis-open.org/committees/tc_home.php?wg_abbrev=cxs

—

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QUESTIONS & ANSWERS

WAKE UP, IT'S YOUR TURN

Q & A