

統合テストベッド上での国際 IoTプラットフォームの展開 FESTIVAL project

下條真司
大阪大学・NICT

**construction of Smart ICT experiment platform &
field trials of Smart ICT applications**

Experimentation

FEderated interoperable **S**marT ICT services de**V**elopment **A**nd testing p**L**atform

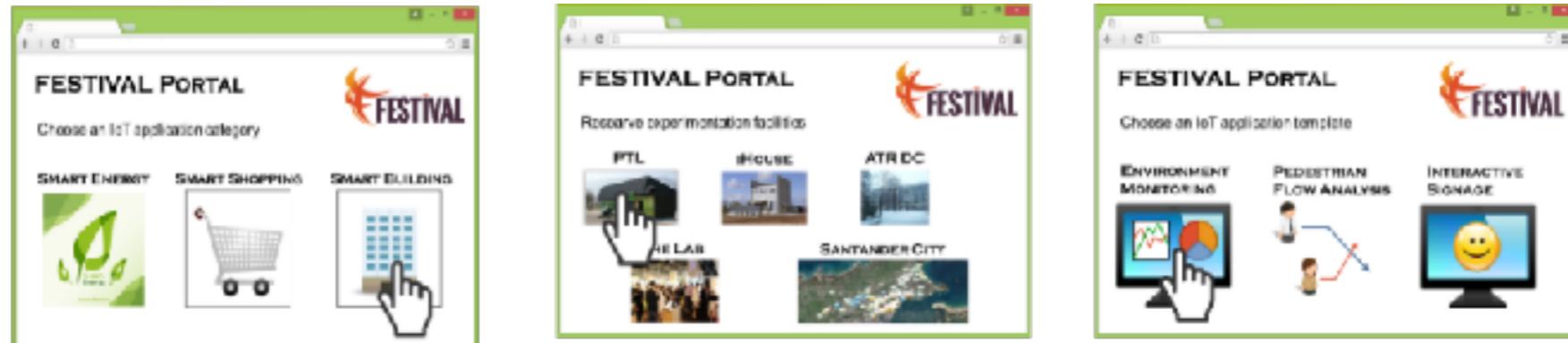
Real-life testbeds, field trials
Japan: Osaka, Kansai



FESTIVAL Architecture



FESTIVAL Portal



Experiment based
federation

Federation through Experimentation as a Service

Resource based
federation



Testbeds



Data



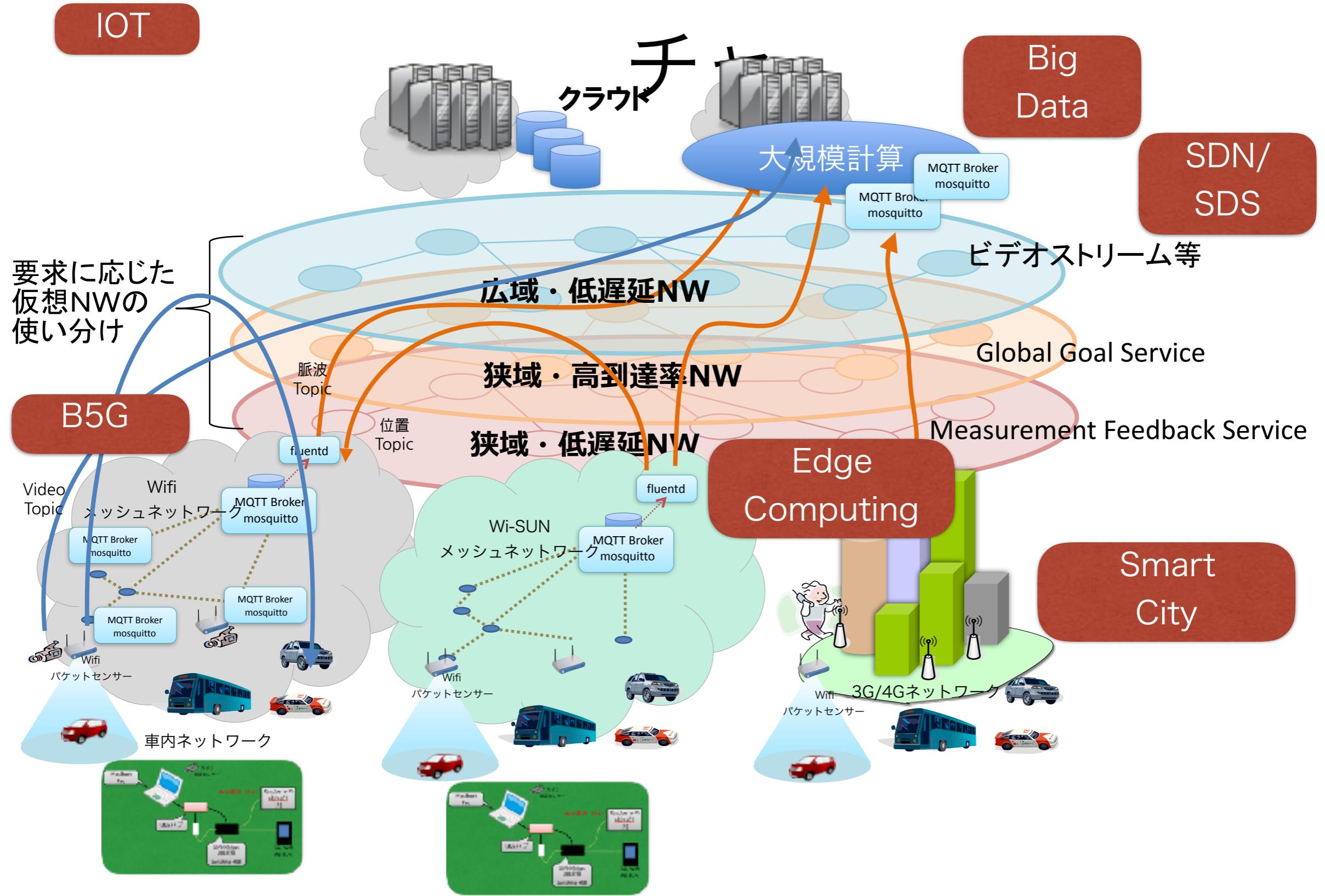
Fields
Sensors

Servers

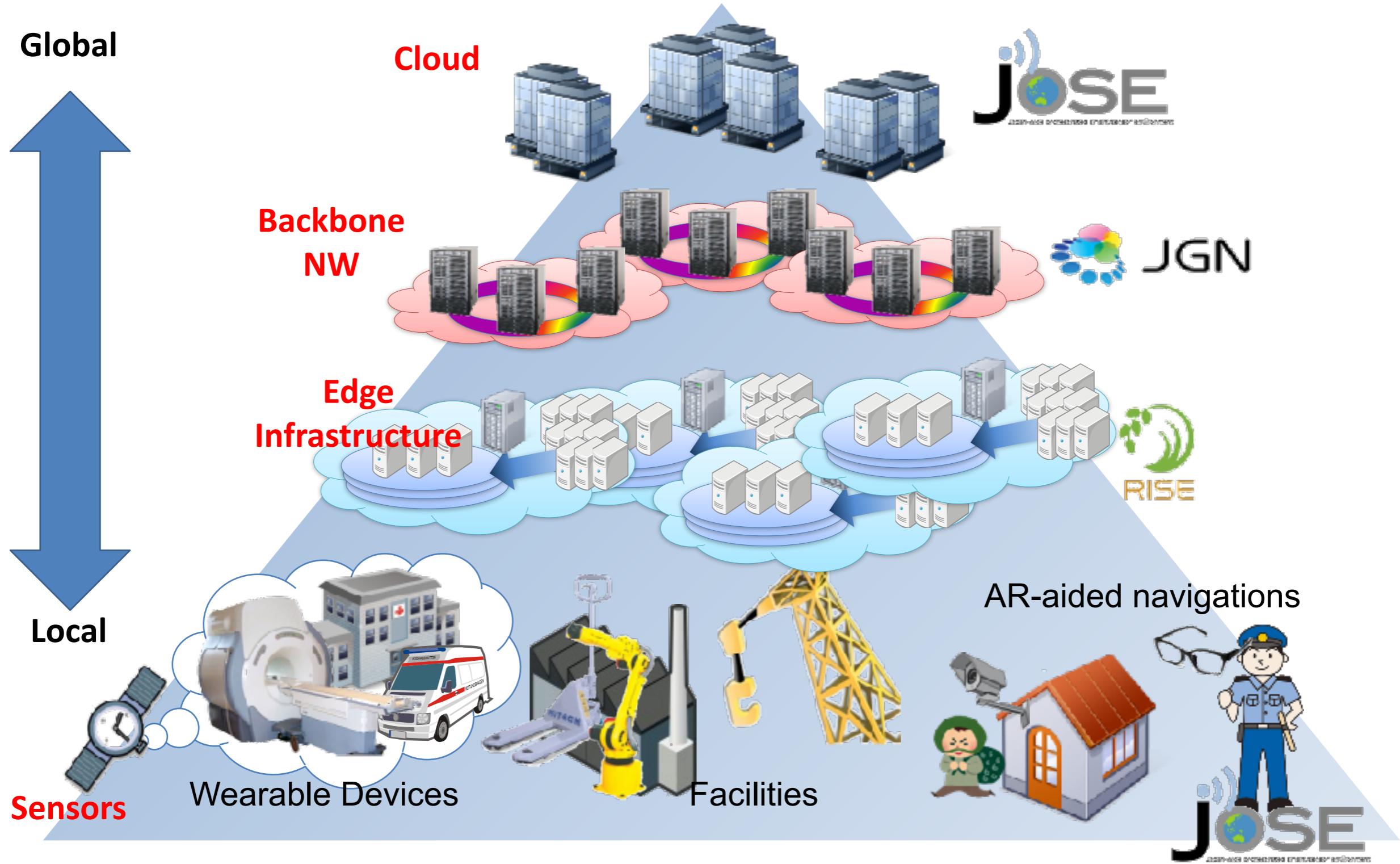
People

EaaS

IoTによるsmart cityのアーキテク

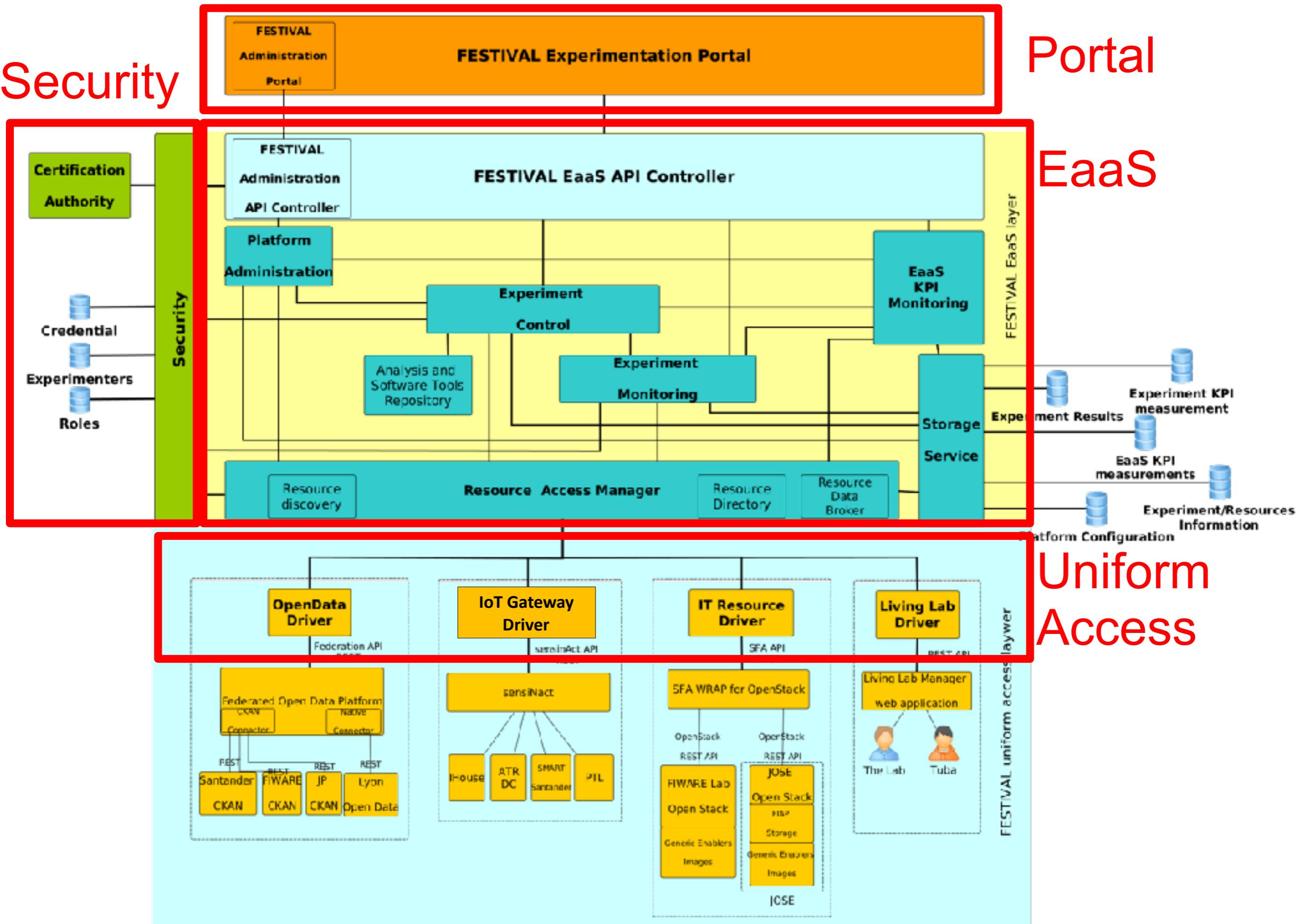


NICT IoT Testbeds for Real Field Experiments

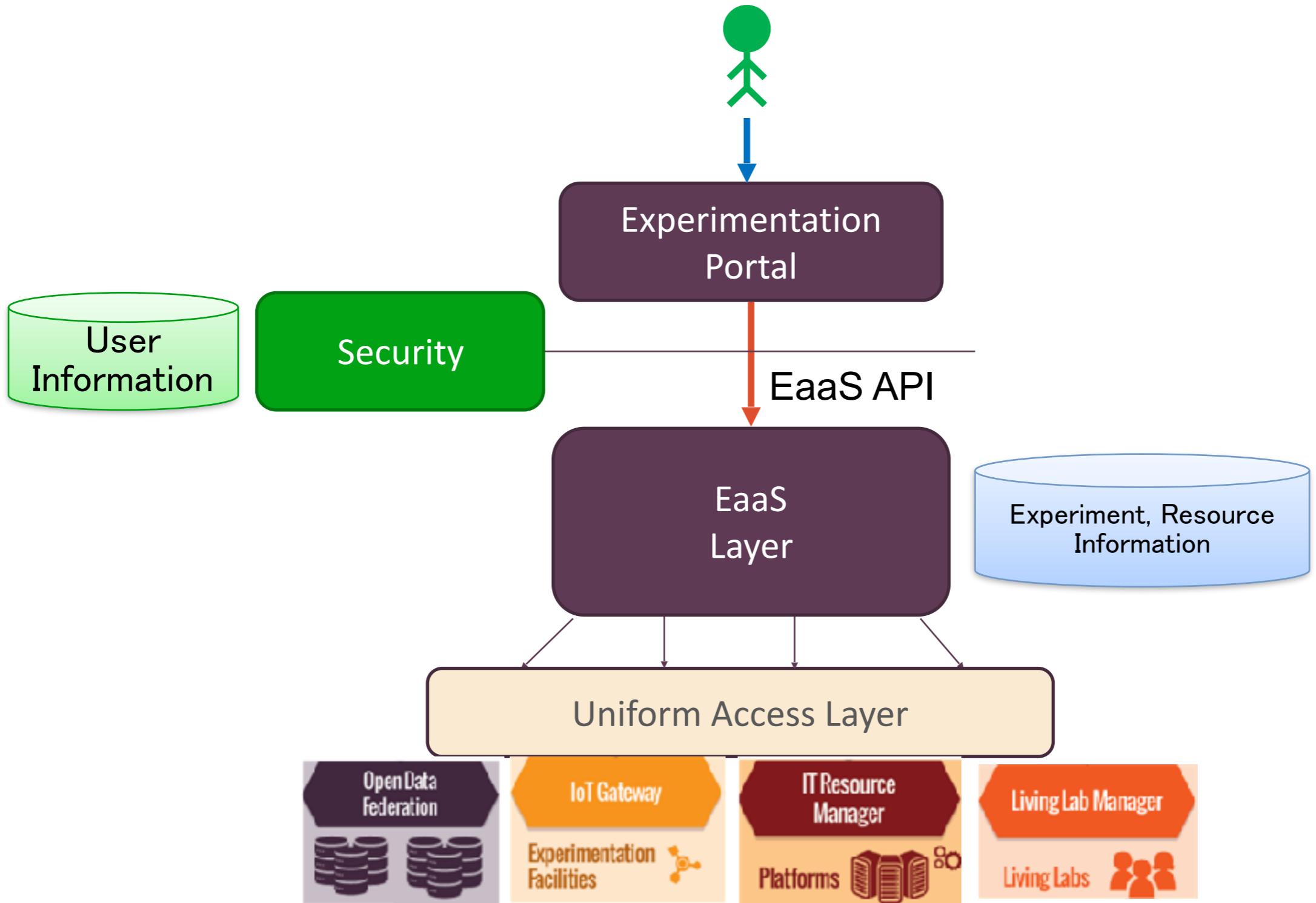


FESTIVAL Architecture (detail)

Security



An example of experimentation flow

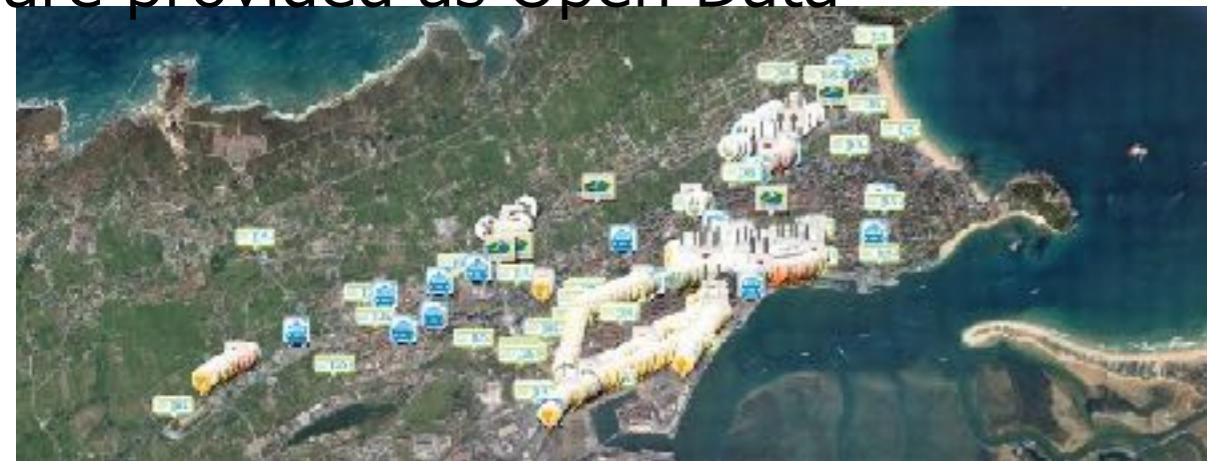


Selected applications and experiments

@Santander
Mercado del Este
Connected shop
Advertised premium discount



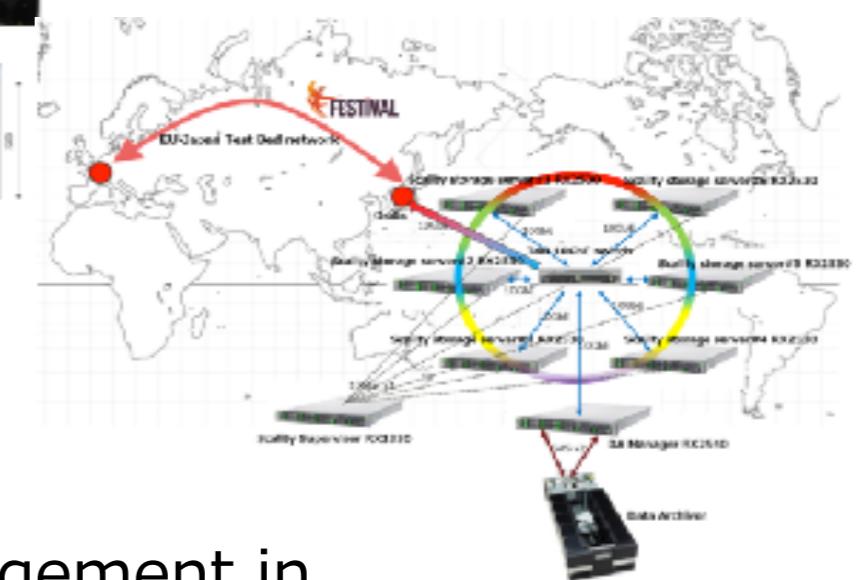
@Santander SmartSantander
Sensor data from SmartSantander
are provided as Open Data



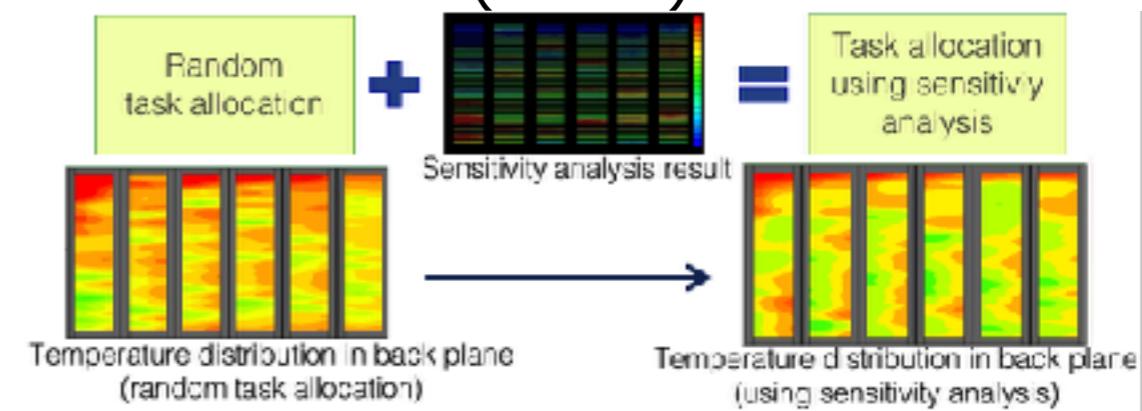
@Tokyo ATR Data Center
Smart Data Center



Cold Storage
Geo-replication



Energy Management in
Data Center (xEMS)

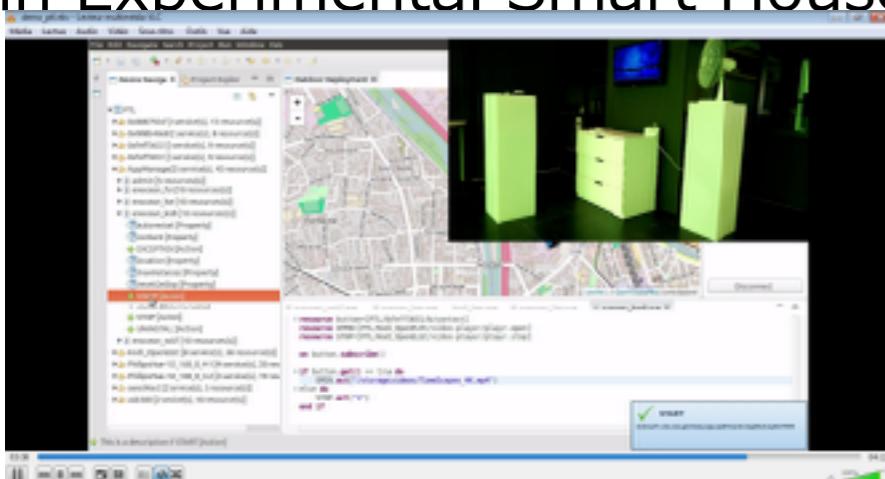


Selected applications and experiments



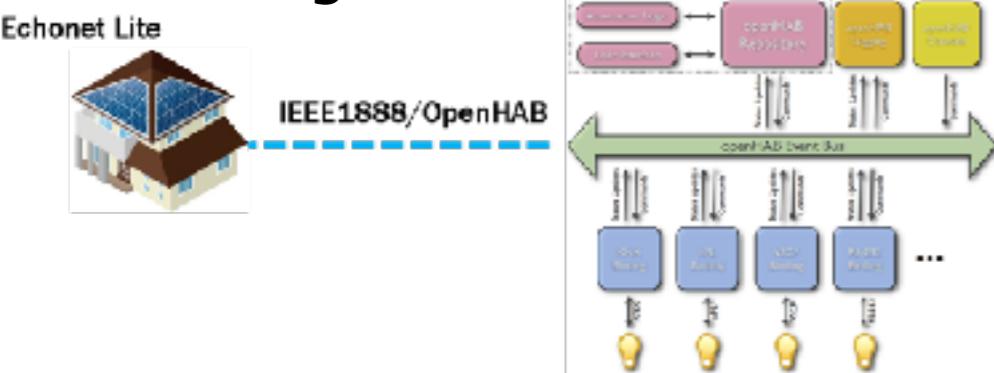
@Grenoble, PTL

Smart Energy Management
in Experimental Smart House



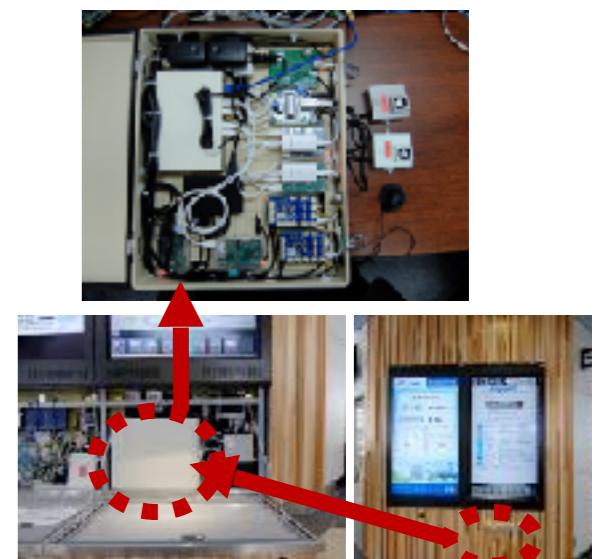
@Ishikawa, iHouse

Energy Management in
Protocol Agnostic Smart House



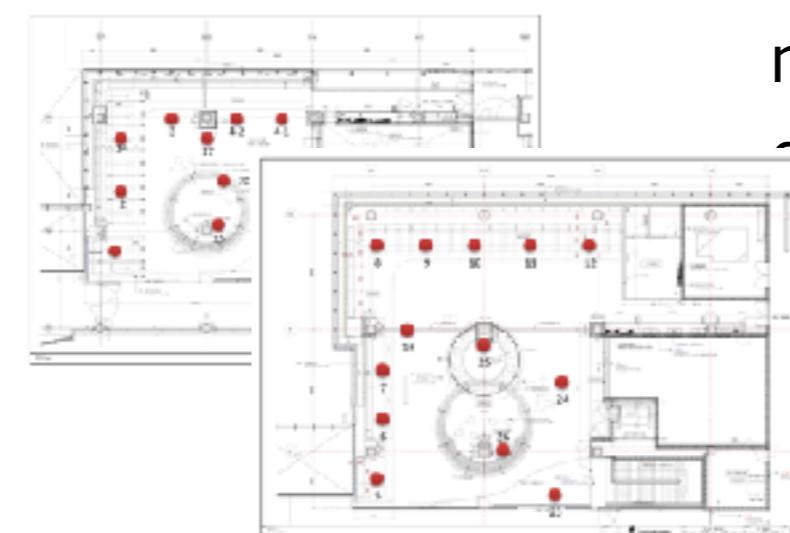
@Kobe, Minato Kanko (Bus company)

Safe driving support system



@Osaka, The Lab.

Recommendation
analysis system



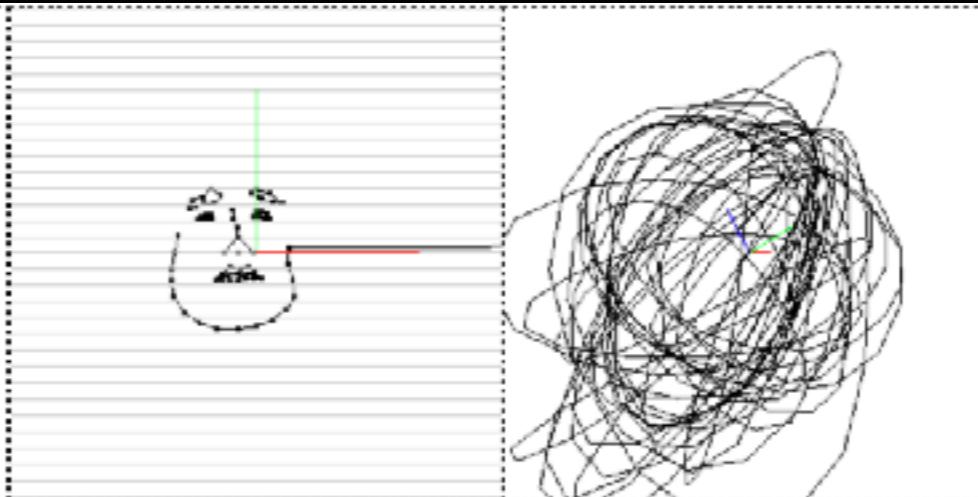
@Kobe & Kyoto, Maya,
Kameoka Station (JR)

Environmental
monitoring using
digital signage space

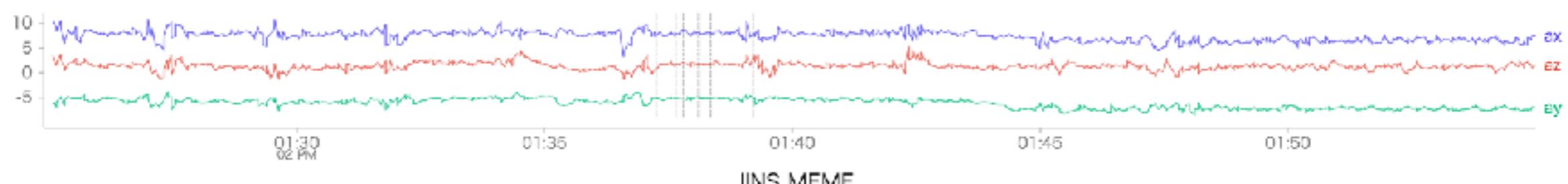
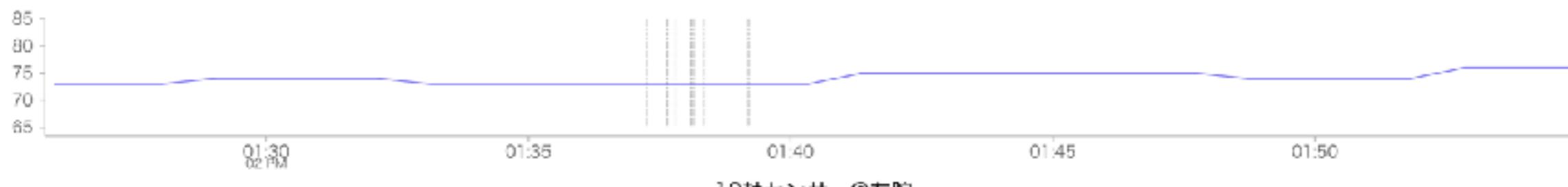
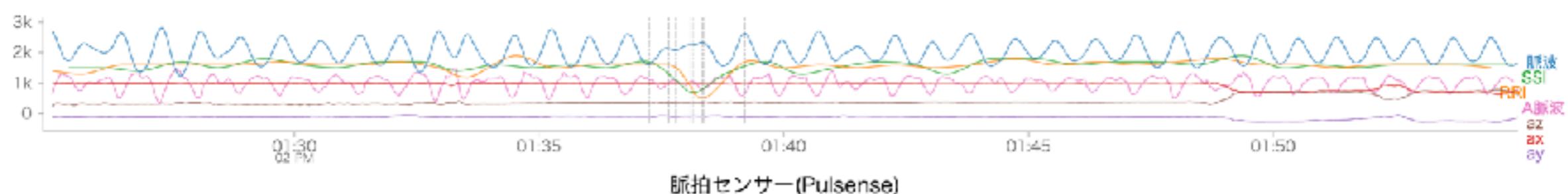
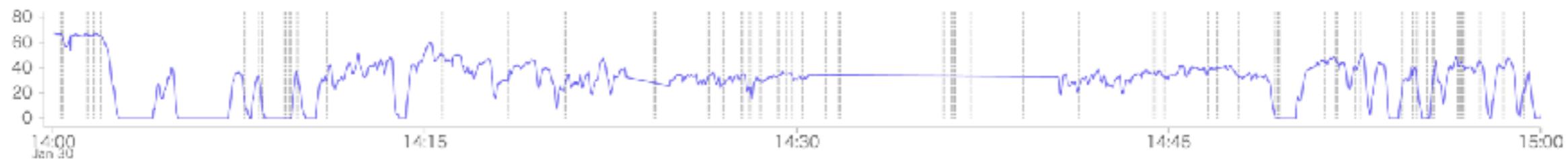
*Several other
applications
will start up soon*

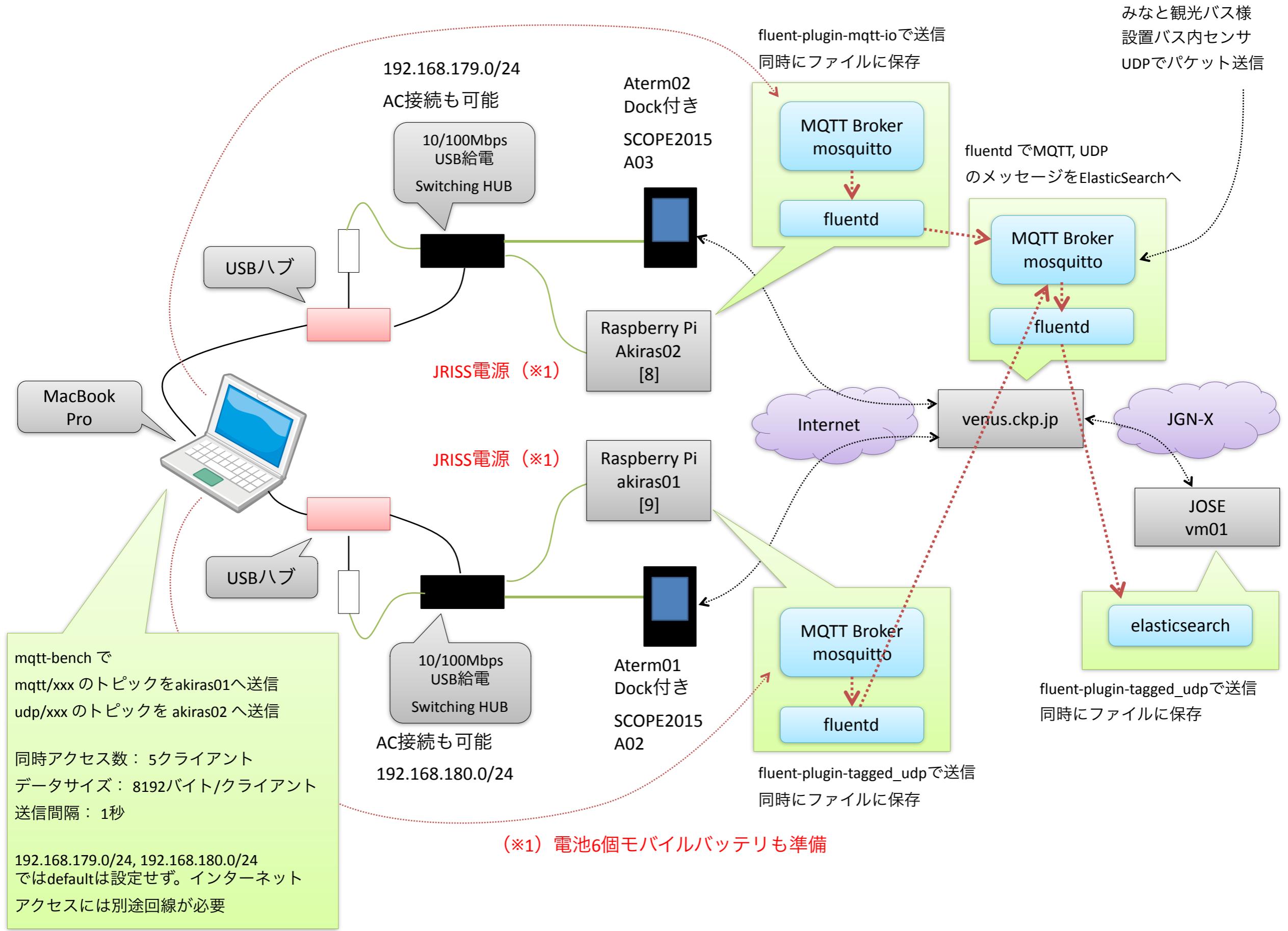


Set: Jan 30 2016 14:01:40 GMT+0900 (JST)
瞳孔
Right Eye: 4.73931
Left Eye: 5.08076
Mouth: 1.85501



速度(Minato Box)





FESTIVAL EAAS platform

Signed in as sshimojo@gmail.com
Roles: BASIC, EXPERT [Token](#)

Experiments Portal

Welcome on the FESTIVAL portal dedicated to experiments.

 Experiments

Create, edit and manage your experiments.

[Go to my experiments](#)

 Browse resources

Browse all assets (aggregators, testbeds, resources), find and allocate resources to your experiments.

[Browse](#)

 Search resources

Perform an advanced search to find resources (Open Data, IoT, II, Living Lab) and allocate them to your experiment.

[Search](#)

 EaaS API

Access the full EaaS API through Swagger and get the possibility to test live requests.

[Go to the API](#)

 Platform KPI

Show the KPI of the Festival Platform.

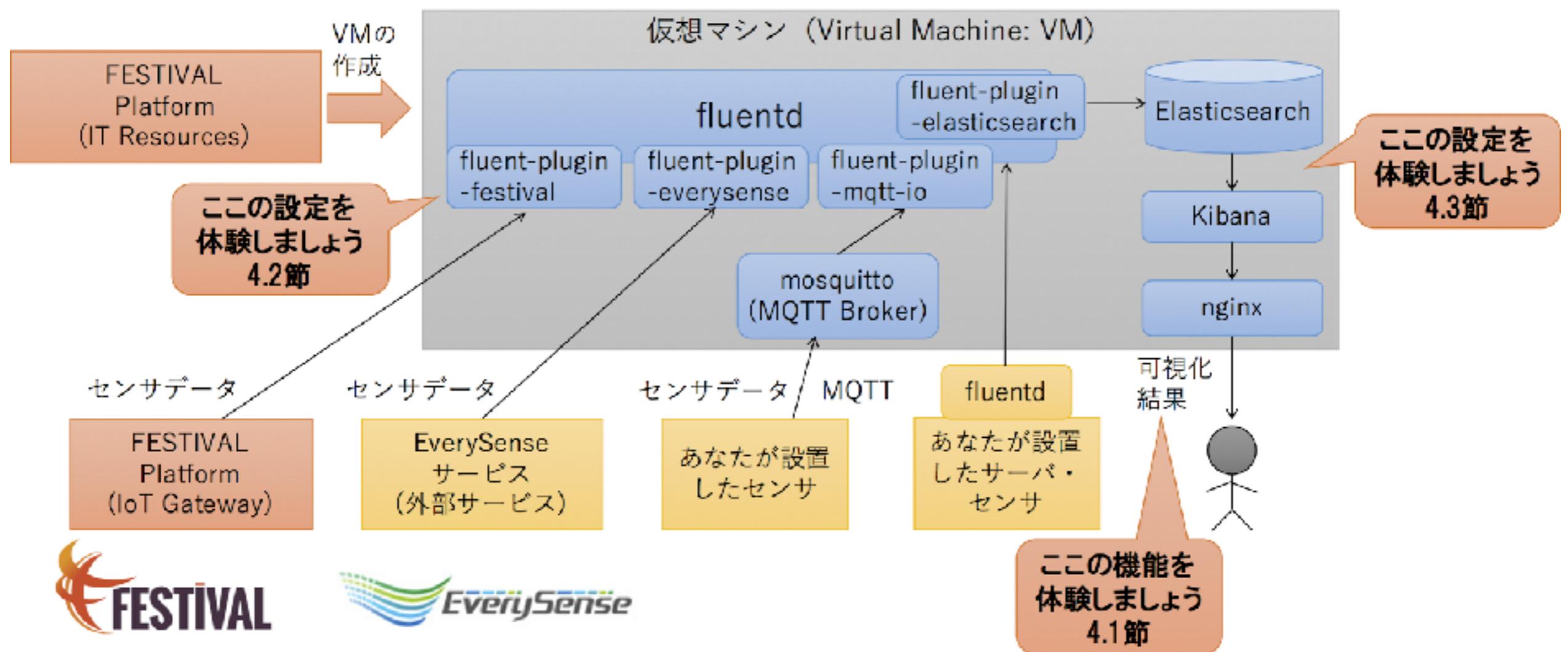
[Show KPI](#)

 Helpdesk

Support needed? The helpdesk is the good place to be in touch with the team behind the FESTIVAL platform.

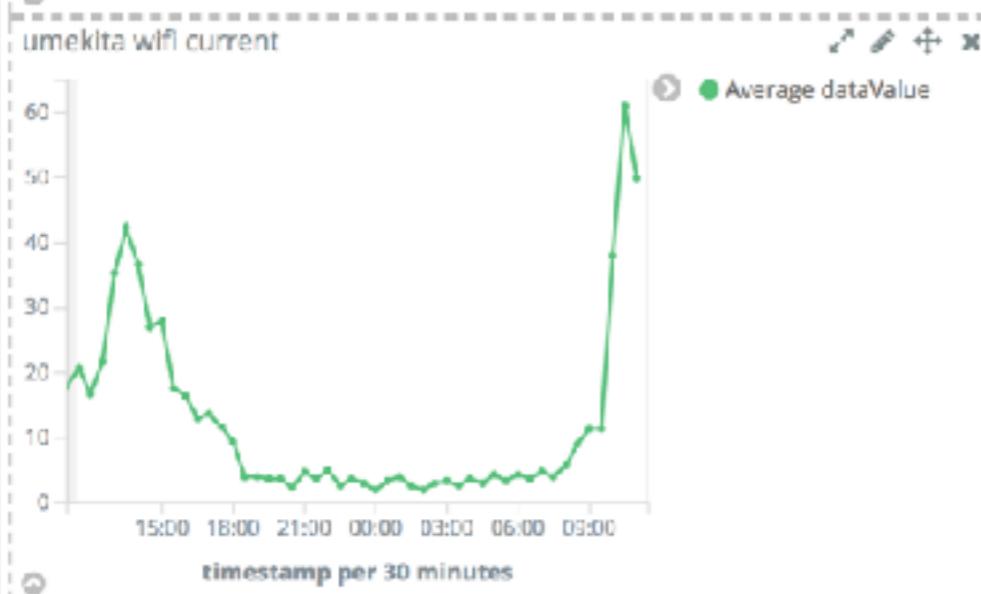
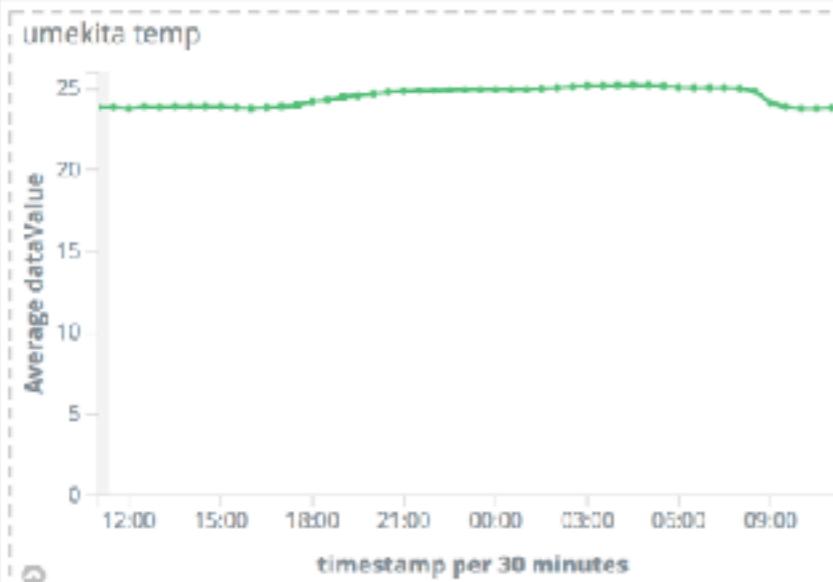
[Go to the experimenter helpdesk](#)

FESTIVAL EAAS in a classroom



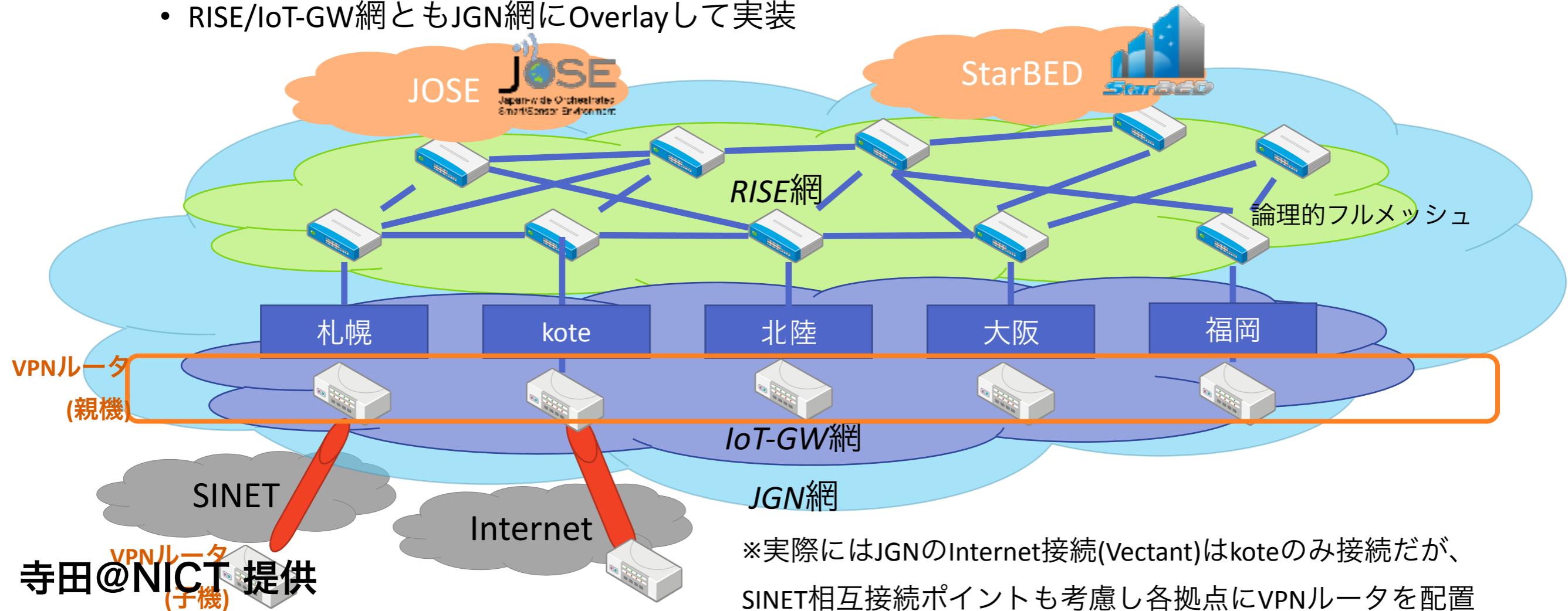


- Discover
- Visualize
- Dashboard
- Timeline
- Dev Tools
- Management

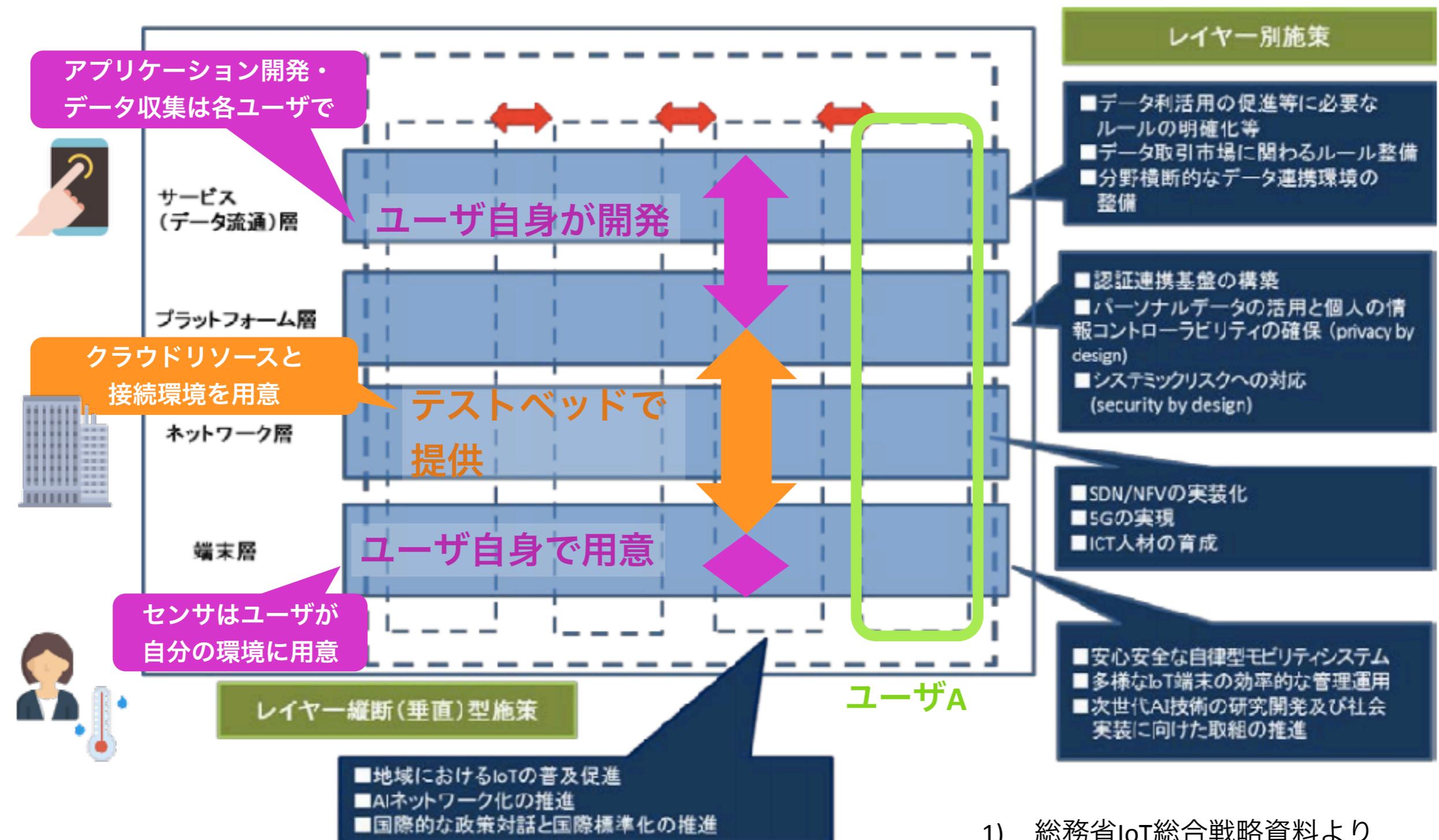


IoT Gateway基本構成

- 各テストベッドリソースへのアクセス方法
 - RISEの下流にIoT-GW網を構築
- IoT GW接続用構成
 - RISE運用系スイッチとは物理的に分離
 - RISE/IoT-GW網ともJGN網にOverlayして実装



IoT-GWサービスの提供範囲



今後

- ・ IoT Gateway+FESTIVAL platformでIoTは簡単に立ち上がる。
- ・ FESTIVALプロジェクトは11月で終了
- ・ 今後については要相談