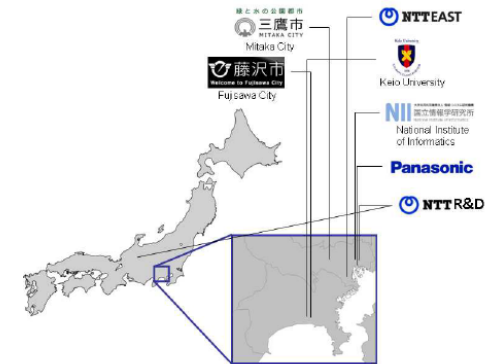




An approach to take advantage of the benefits of cloud computing for IoT

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Engineering Group**

12th of April 2016
LONDON





ClouT project



- EU Commission and Japan NICT
- Smart cities context
- Benefits of Cloud Computing applied on Internet of Things
- Bridging Internet of Things to Internet of People through Internet of Services

ClouT ClouT motivations

Smart Cities

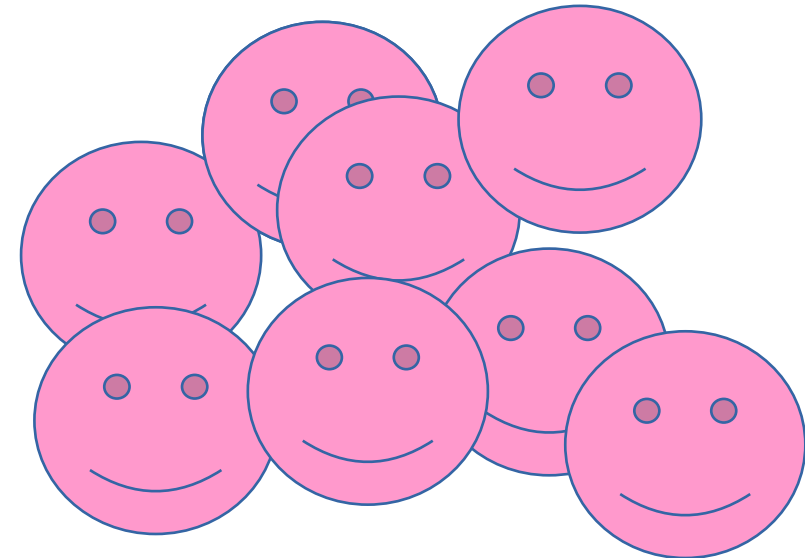
should provide services more and more advanced



Economical resources constantly decreases

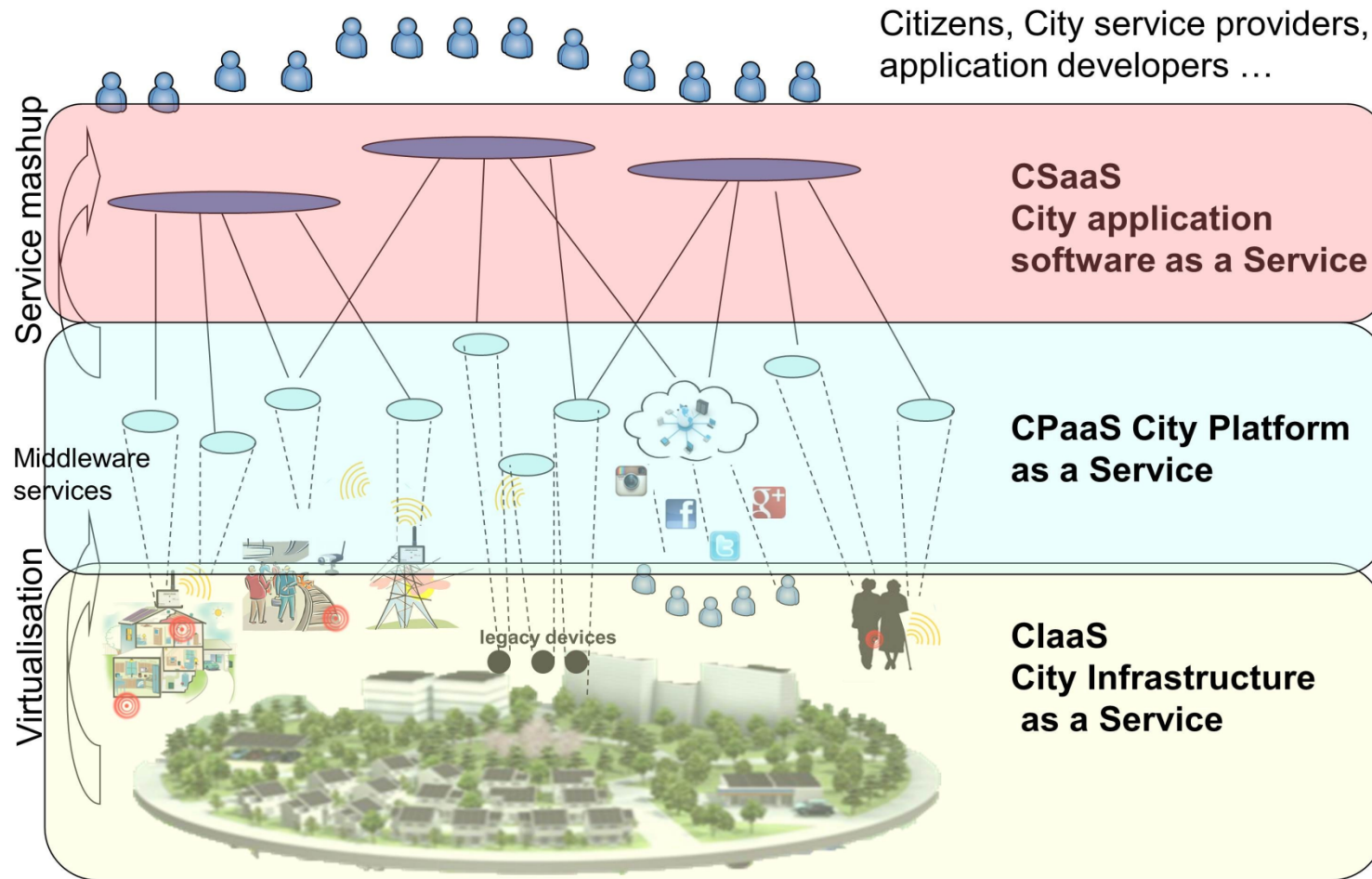


Population living in cities constantly increases

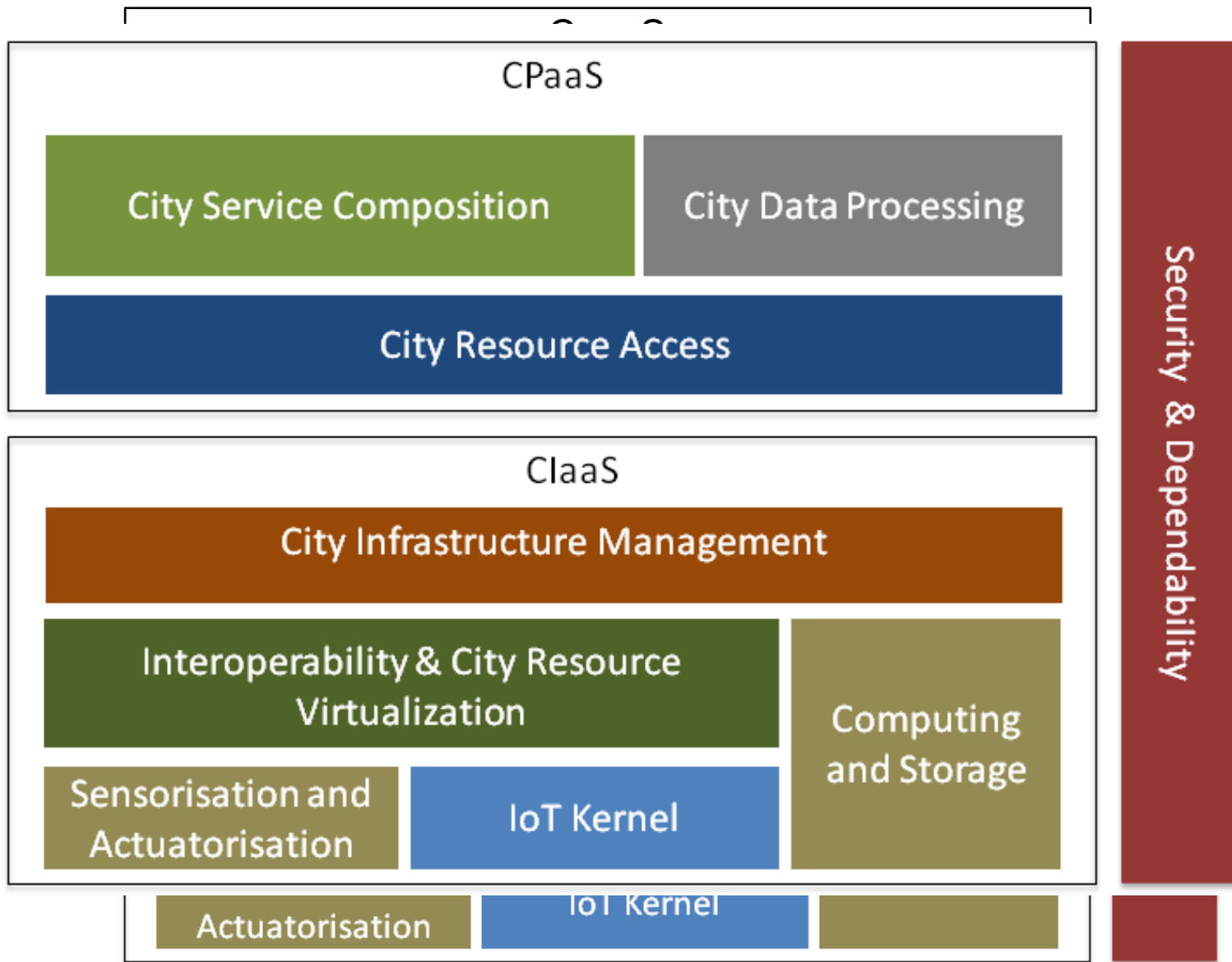




ClouT concept



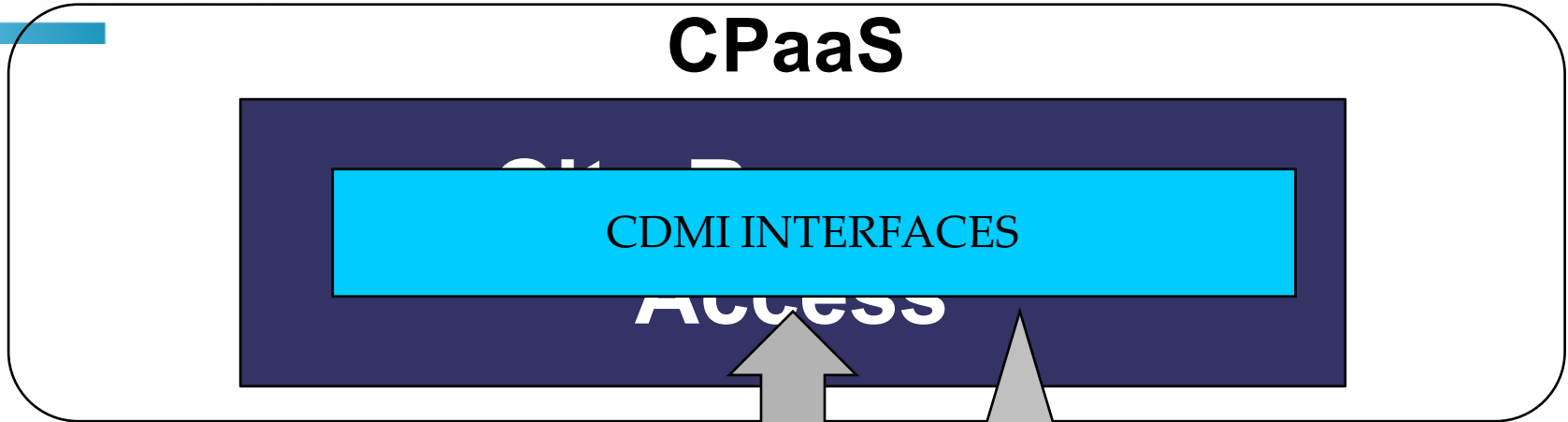
ClouT ClouT Architecture





ClouT Storage

CPaaS



CPaaS

GATEW



CDMI STORAGE



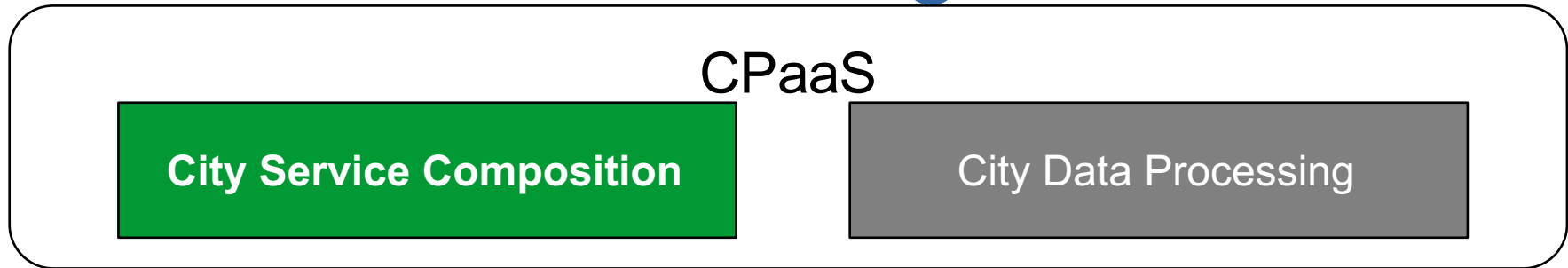
HYPERTABLE

 ClouT Storage: features

- CDMI Interfaces
 - Compliant to CDMI specification version 1.1.0
 - Support sensor data and object data
 - CDMI Gateway
 - Processes sensor data and object data
 - Supports queue to implement query queues
 - CDMI Storage
 - OpenStack Swift to store object data
 - Hypertable to store sensor data and metadata
- Elasticity (Dynamic Scalability)



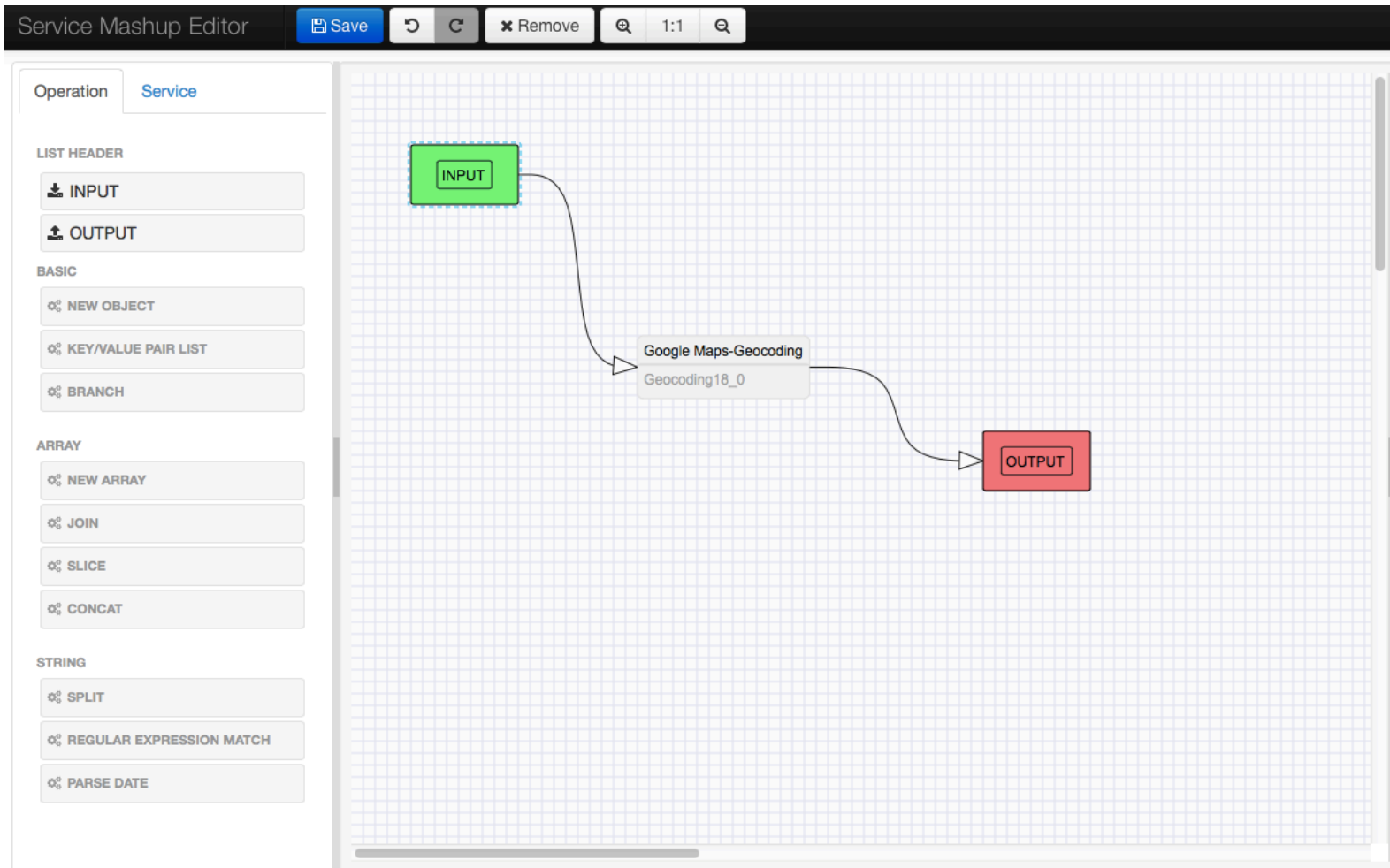
Service and Event Management



- Easy service composition
 - Manages sensor data
 - Produces complex services that leverage cloud processing power
- Complex Event Processing
 - Easy definition of reaction to events
 - Events defined by sensor data



Service Composition Tool





Benefits of Cloud

- Rapid and simple application development
 - Service composition tool
- Scalability
 - Computing and Storage: elasticity and dynamic scalability
- Pay as you go
 - Municipalities can use (and pay for) used resources
- Resiliency
 - Deployment on different data centers: data backup



Conclusions

- Four field trials and an intercontinental demo
 - Genoa, Santander, Mitaka, Fujisawa
 - First feedback from the users very good
- Business Model almost completed
 - Companies will be able to develop applications
 - Municipalities will get applications and needed resources (computing, storage and operational support) according to their sensor data
- Review on the 27th of May in Tokyo



Thank you!

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