Cloud-based IoT Server for energy savings

W205-3 | Matthew Burke, Jan Forslow, Vyas Swaminathan, Xiao Wu

Current Industry Status and Main Goal of Project

Legacy Smart Meter systems were developed 7+ years ago

Optimized for once-a-day reading of Smart Meter data for billing purposes

The use of Cloud-based IoT Server opens up for new possibilities:

- Infinitely scalable
- Handling of real-time streaming data

This opens up for new ways for energy savings and power grid control:

Voltage optimization, community energy sharing/sales, etc.

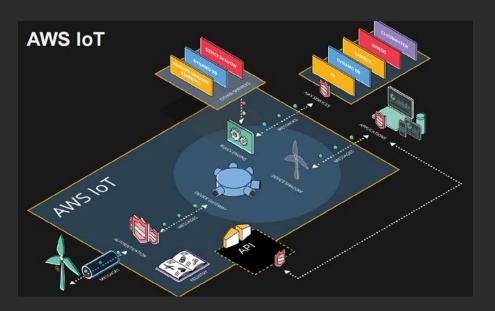
Potential Data Sources

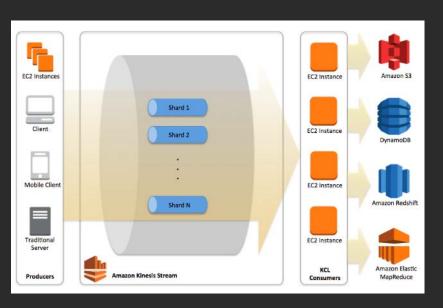
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Example Data from Private Firms

Public Streamed Data

Potential Architecture





AWS IoT

Amazon Kinesis

AWS Lamba

Looking Forward

Challenges:

We may have to use static log data to simulate real-time streamed traffic at scale

Difficulties ensuring simulations to be as realistic as possible

Initial Plan:

Develop data simulation algorithm

Create high-level architecture (components, DAGs etc)

Testing and scale out

MapReduce and analytics