IoT
Cassandra Data Modeling

November 2016

Information type:	Working Standard
Company name:	IFI SOLUTION
Information owner:	IFI SOLUTION

IoT Energy

Context

- Thousand industrial sites in US, Canada, Europe
- Thousand buildings and super markets
- Hundred thousand users
- Million captors
  - Data semi-structured or Un-structured
  - At least one data event each 2 seconds each captor
  - 50K records a day each captor
  - Billion records a day in total
- Real time monitoring
- Multi dimensions reporting
  - Daily
  - Monthly
  - Yearly
  - …
- Data analytics

Cassandra

- Lambda-architecture
  - US Metro - SMACK Stack (Spark, Mesos, Akka, Cassandra and Kafka)
  - Lambda-architecture for Twitter Sentiment Analysis
  - Amazon Web Services Lambda

- Cassandra
  - Best Practice of One Table Per Query
  - De-normalized data models.
  - Primary key with a hashing algorithm
    - Partitioning
    - Clustering
  - Scalability
  - Performance

Any questions?