Google Next 2024

February 2024

Cox 2M Overview

Cox 2M is the commercial Internet of Things (IoT) business line within Cox Communications. As an agile and growth-oriented business, we're dedicated to delivering innovative, impactful and intelligent solutions that provide the real-time data you need to generate actionable insights and make better decisions that improve your business or community.

COX 2M

LOTVISION

GearTrack™

kayo

COX BUSINESS® | Smart Communities

94
Fixed customer locations

650K
IoT sensors deployed

2.6M+
Images processed
Smart Parks AI

3
Countries

2M+
IoT sensor messages per hour

75%
Reduction in dwell time
Curbside Management

29K+
Miles traveled per hour

14B+
New rows of data per year

60%
Reduction in energy consumption
Connected Streetlights

11.4B+
Assets tracked

3TB+
Data per year

Time & cost to actionable insights was too high

2018 - 2020 | 2021 - 2022 | 2023 - 2024

Pre-BI Data Acquisition

1. IoT sensors generate data
2. Sensors send raw data through our LoRa or Cellular network
3. Raw data (json) is loaded to a BigQuery streaming table or PostgreSQL database via pub/sub for future use

Business Intelligence Cycle

1. Ad-hoc request from business
2. Extract & Transform data from source via **scheduled query or cloud function** (Scheduled Batch Processing)
3. Load data to new tables in **BigQuery**
4. Setup data source for BI tool via BigQuery views & BI semantics (Scheduled)
5. Build insights in BI tool
6. Present insights
7. More business questions

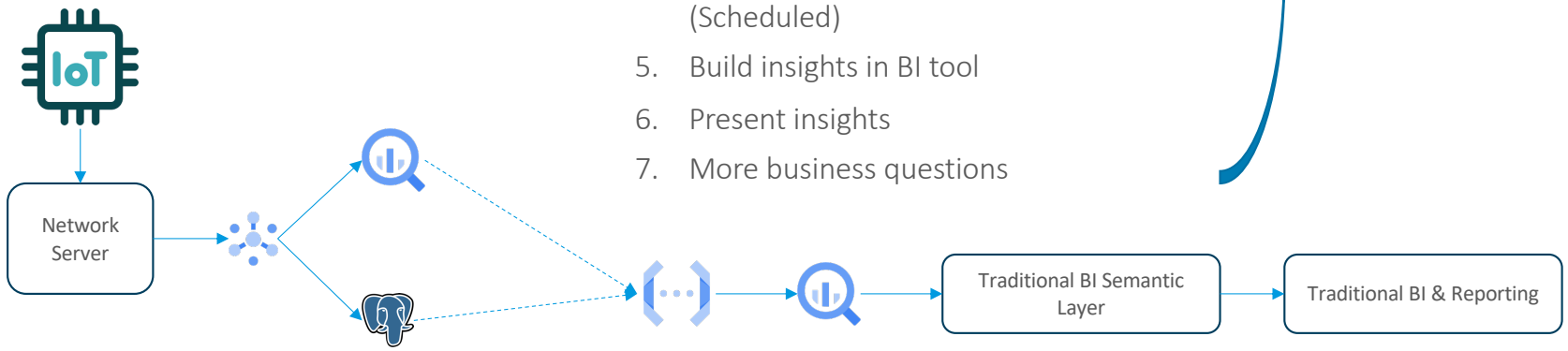
Impact

8+ hours

for 1 ad-hoc request

$142K+

Cost to serve per year



We created a data analytics & BI CoE - grew in maturity

2018 - 2020 | **2021 - 2022** | 2023 - 2024

Pre-BI Data Acquisition & Prep

1. IoT sensors generate data
2. Sensors send raw data through our LoRa or Cellular network
3. Raw data (json) is loaded to a BigQuery streaming table or PostgreSQL database via pub/sub for future use
4. **Extract & Transform data from source via scheduled query or cloud function (Scheduled Batch Processing)**
5. **Load data to new tables in BigQuery**

Business Intelligence Cycle

1. Ad-hoc request from business
2. ~~Extract & Transform data from source via scheduled query or cloud function (Scheduled Batch Processing)~~
3. ~~Load data to new tables in BigQuery~~
4. Setup data source for BI tool via BigQuery views & BI semantics (Scheduled)
5. Build insights in BI tool
6. Present insights
7. More business questions

Impact

5+ hours (-3)

for 1 ad-hoc request

$89K+ (-$53K)

Cost to serve per year

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We reduced time and cost to actionable insights by 88%

2018 - 2020 | 2021 - 2022 | 2023 - 2024

Pre-BI Data Acquisition & Prep

1. IoT sensors generate data
2. Sensors send raw data through our LoRa or Cellular network
3. Raw data (json) is loaded to a BigQuery streaming table or PostgreSQL database via pub/sub for future use
4. Extract & Transform data from source via scheduled query, cloud function, **datastream, dataflow, and dataform** (Scheduled Batch **& Real Time** Processing with CDC)
5. Load data to new tables in BigQuery

Business Intelligence Cycle

1. Ad-hoc request from business
2. Setup data source for BI tool via BigQuery views &/or BI semantics **(Real-Time & scheduled)** 1 hour > 10 minutes
3. Build insights in BI tool
4. Present insights
   1 hour > 5 minutes
5. More business questions
   3 hours > 45 minutes

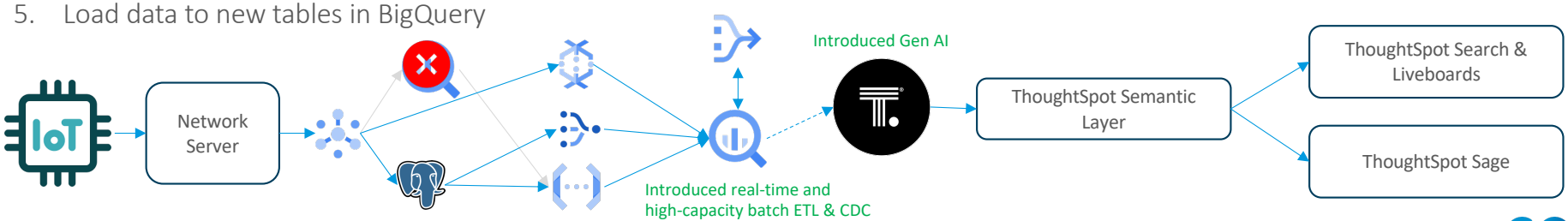
Impact

1 hour or less (-7)

for 1 ad-hoc request

$18K (-$124K)

Cost to serve per year



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