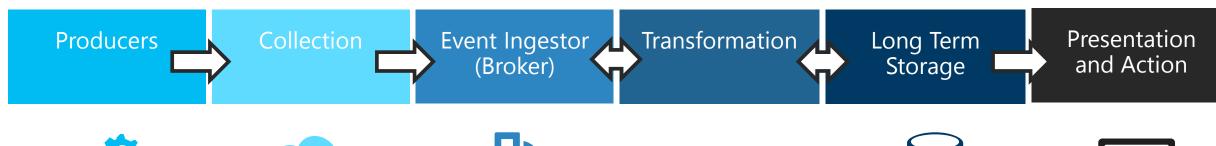
#### DATA INGESTION WITH EVENT HUB

Phuc Duong



### Typical Event Processing





**Applications** 



**Cloud Gateways** (WebAPIs)



Scalable **Event Broker** 



External **Data Sources** 



Web/Thick Client Dashboards





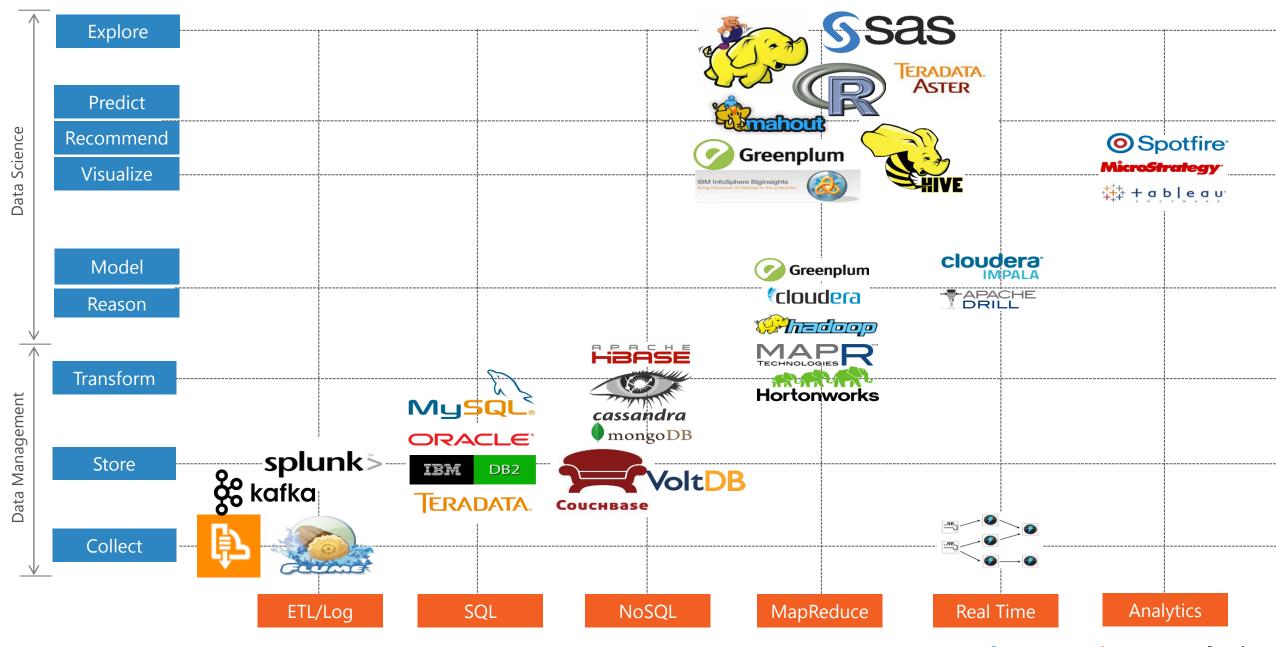
Data Analytics







Field Gateways

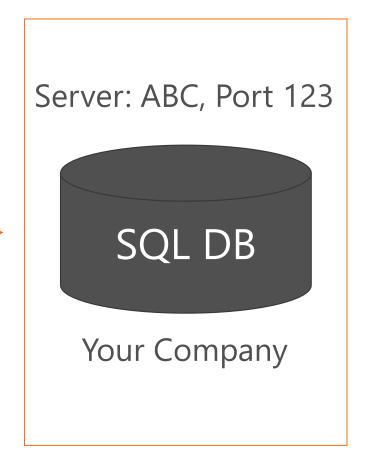


#### Hypothetical Scenario





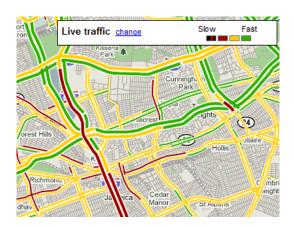
Sends Traffic Data



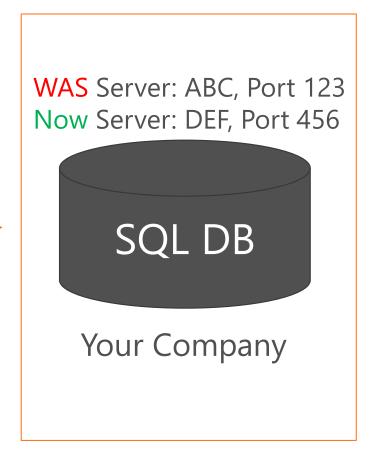


# Things Change





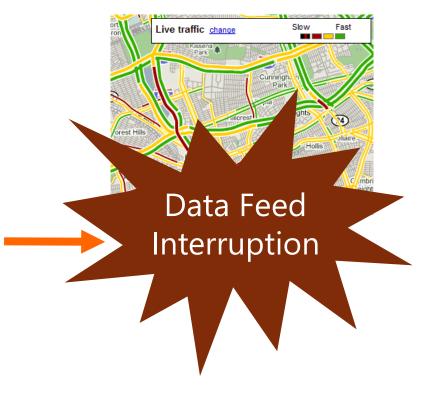
Sends Traffic Data

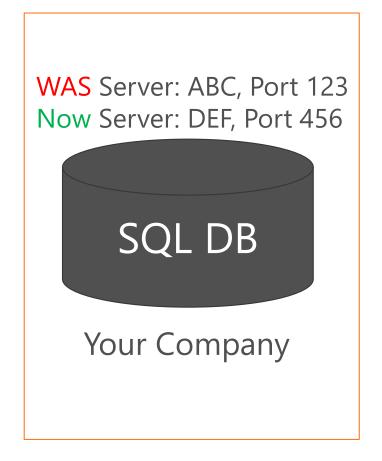




#### Interruption Occurs





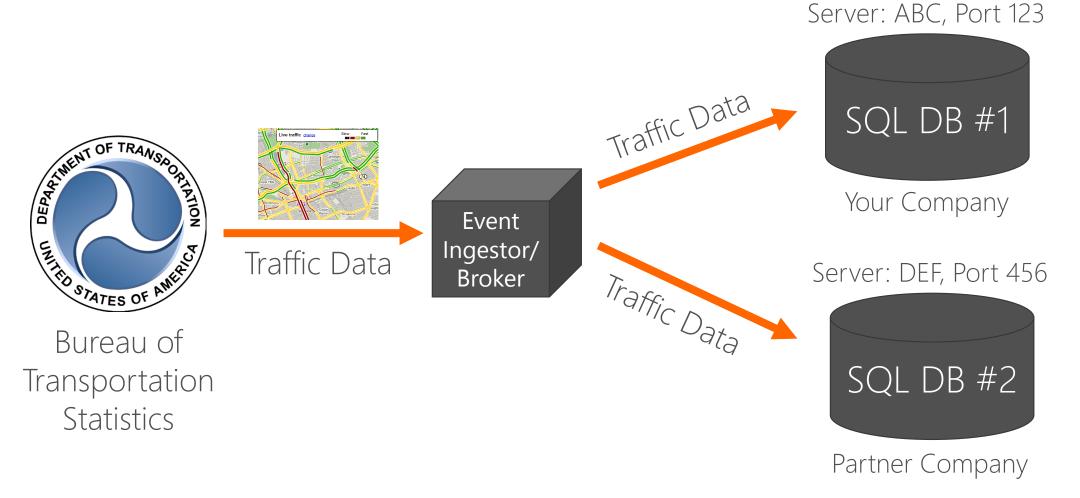


#### Reactive Remedy

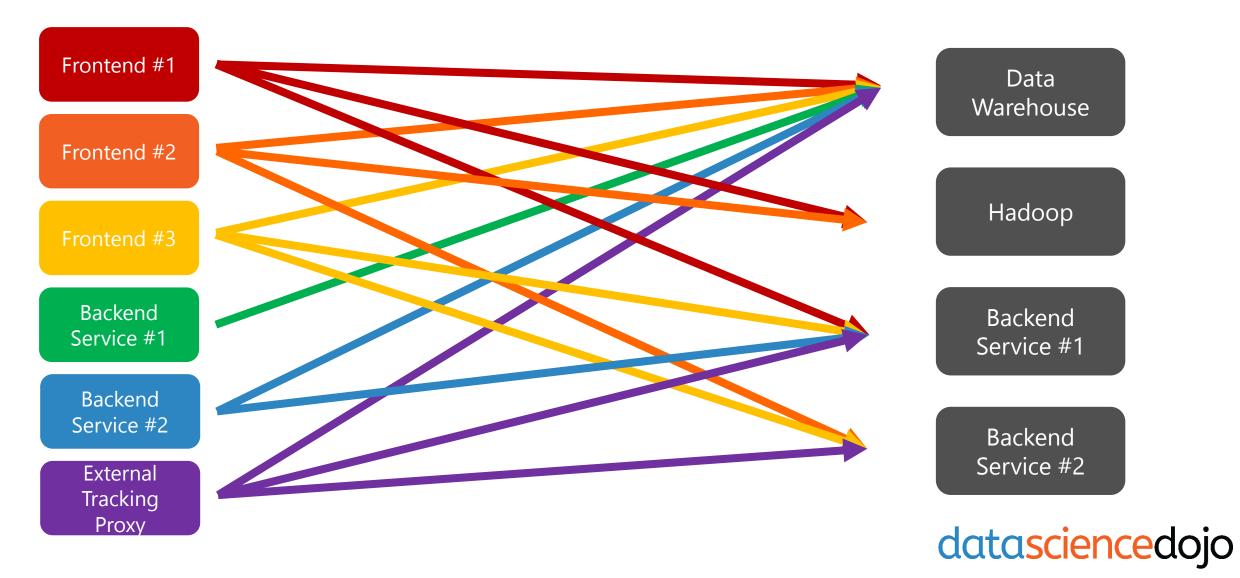
- Call Bureau of Transportation
   Statistics to change their outbound data to funnel into server DEF and port 456
- Bureau makes support ticket
  - Your request enters their task queue
- 4 days later... ports are changed



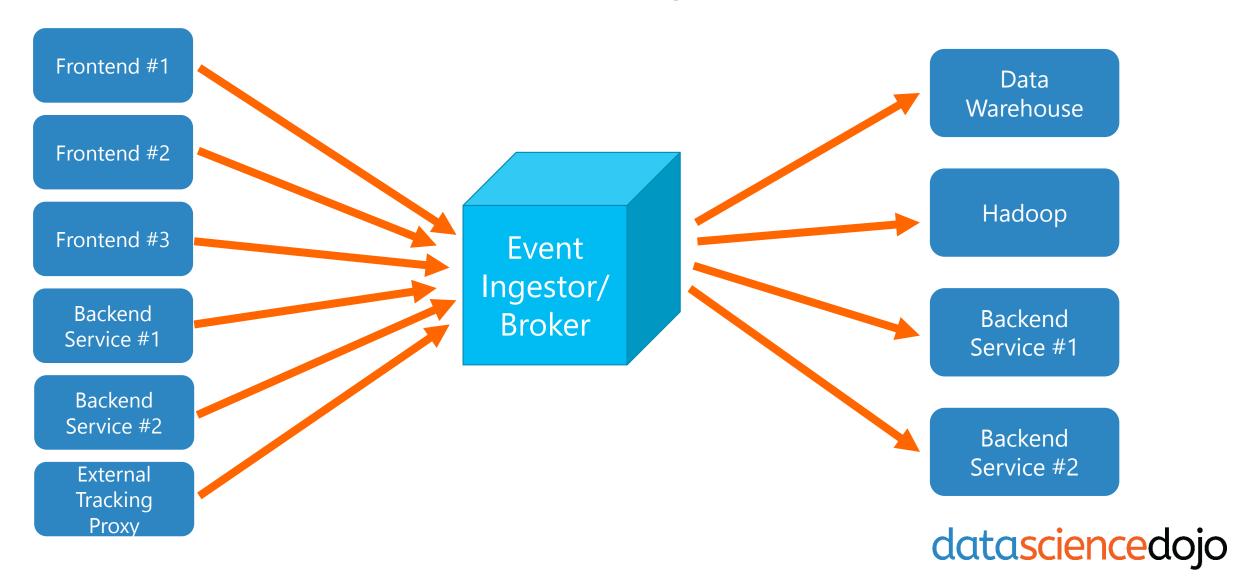
#### Preventative Solution: Middleware



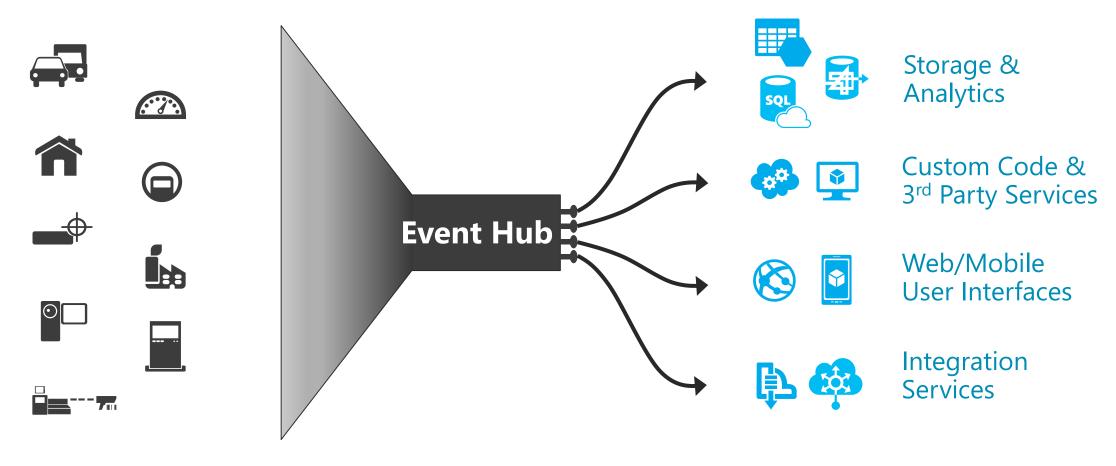
## Data Pipeline Complexity at LinkedIn



## Data Pipeline Complexity at LinkedIn



## Event Hub for IoT: Big Data Ingestion



**Event Sources** 

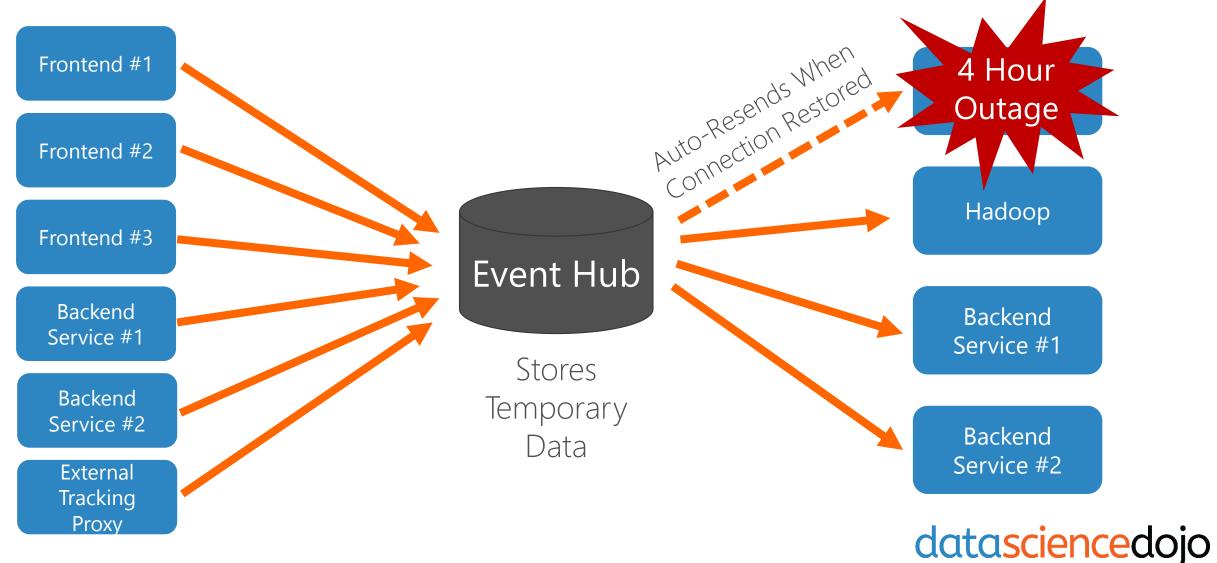
**Cloud Services** 

#### Server Down

Proxy

4 Hour Frontend #1 Outage Frontend #2 Hadoop Backend Backend Service #1 Service #1 Backend Service #2 Backend Service #2 External Tracking

## Temporary Storage



#### The Post Office

- Tracks address changes
- Tries again tomorrow if send failed
- Holds packages in short term
  - Too many failed deliveries
  - Vacations
- Reduces complexity through specialization

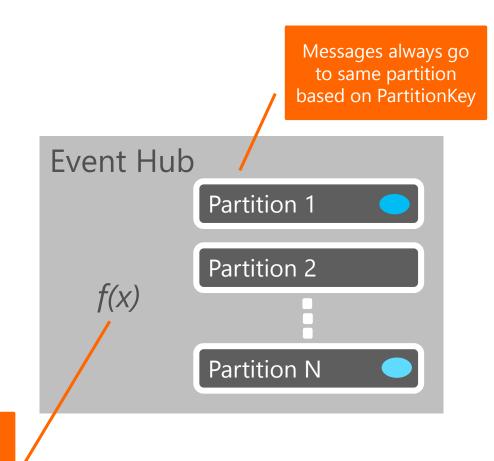


#### Event Hub Consumers

Device Sets
PartitionKey
to its ID

A

Event Hub uses a static hashing function to map PartitionKey to partition



Reader 1

Reader 2

Reader N

Consumer Group

Hadoop

Reader 1

Reader 2

Reader N

Consumer Group

Data Warehouse

### Supported Languages

**Documentation Available** 







Supported But Documentation Still Pending





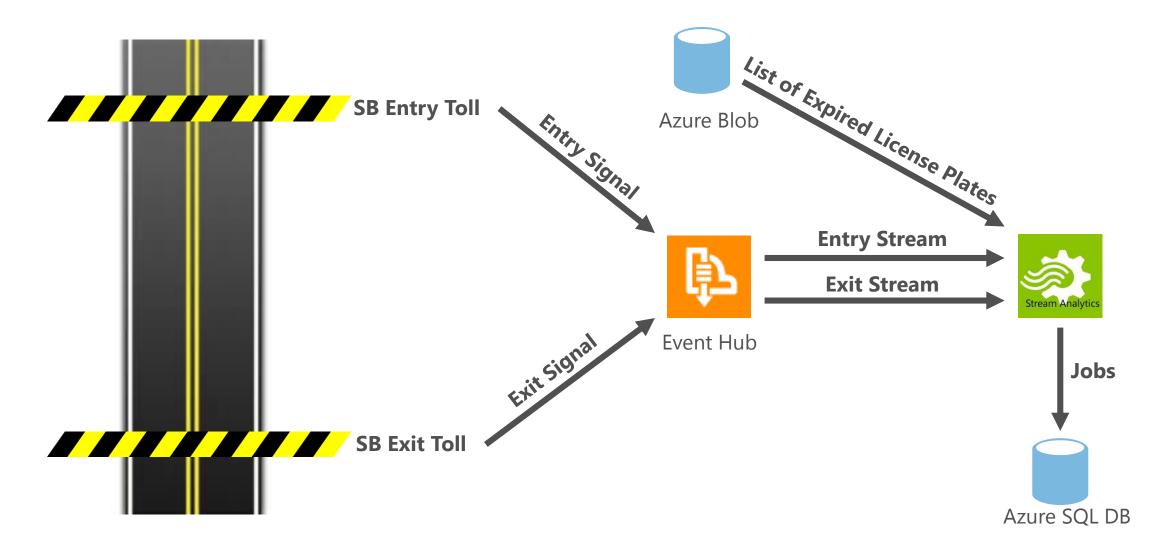




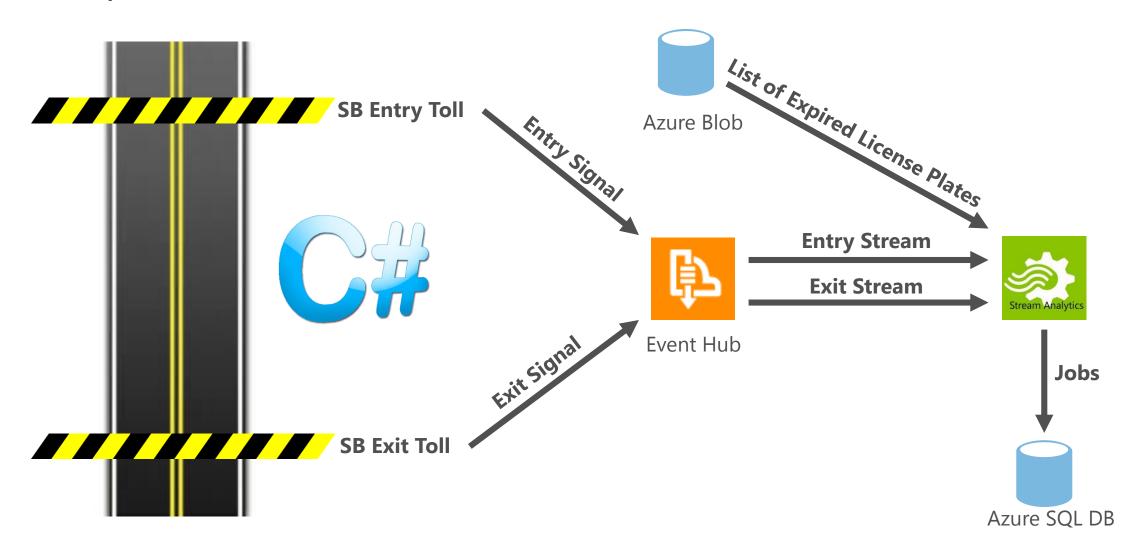




#### Automated Tolled Road Demo



## Setup File



#### Questions?

