#### **Data Ingestion With Event Hub**

Data Science Dojo



#### **Typical Event Processing**

Producers Collection Event Ingestor Transformation Long Term And Action Presentation and Action







Cloud Gateways (WebAPIs)



Scalable Event Broker



External Data Sources



Web/Thick Client Dashboards



Devices

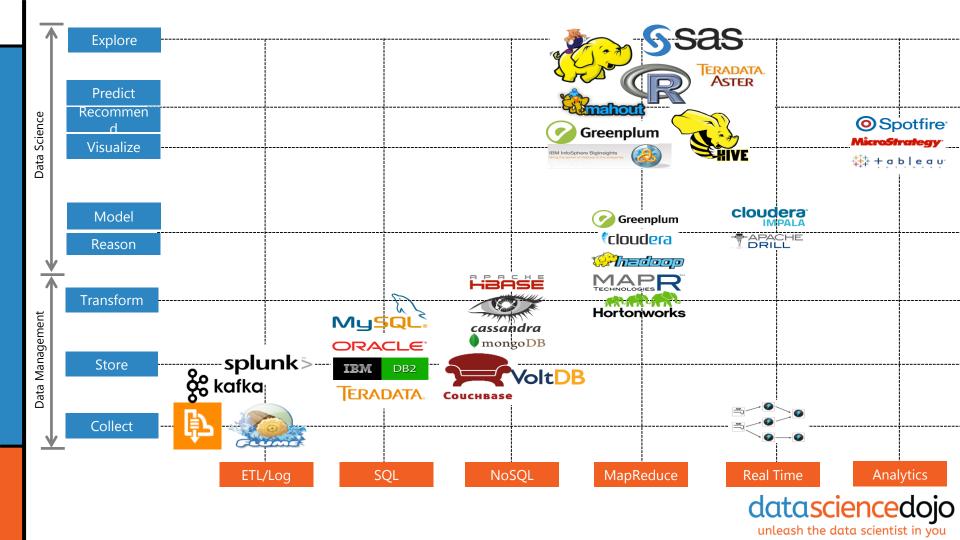


Field Gateways



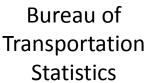
Search and Query





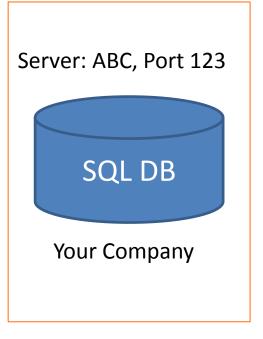
# **Hypothetical Scenario**







Sends Traffic Data





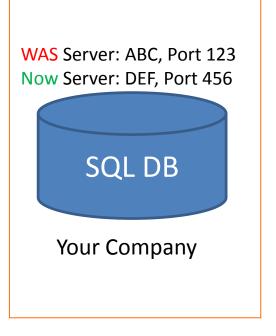
# **Things Change**



Bureau of Transportation Statistics



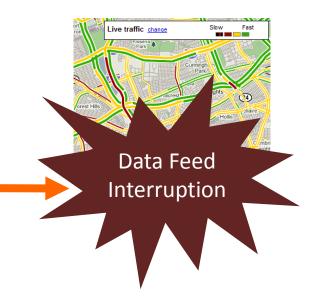
Sends Traffic Data

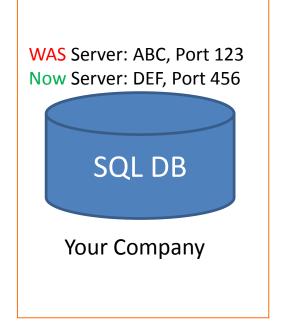




## **Interruption Occurs**









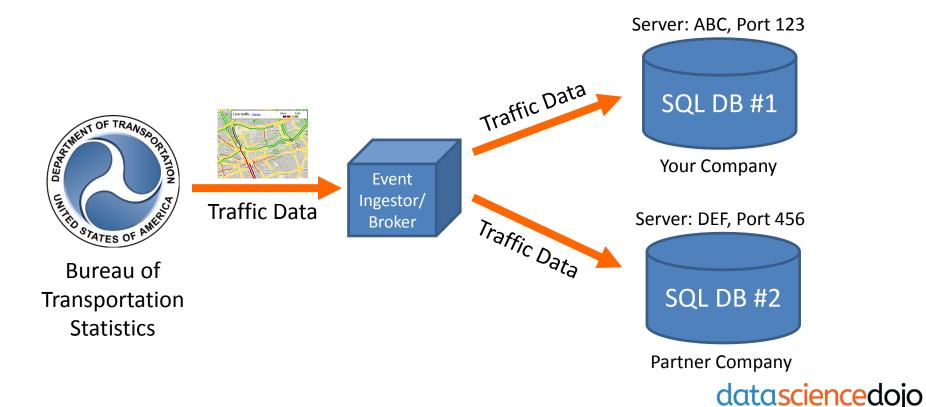
#### **Reactive Remedy**

- 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



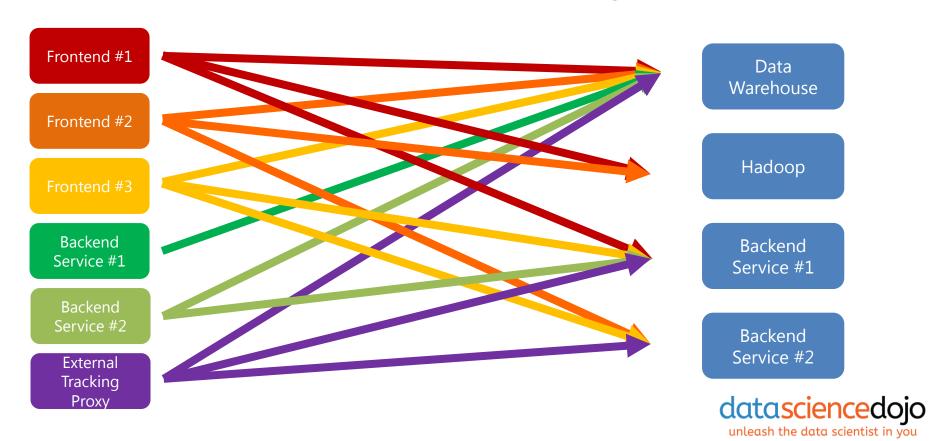


#### Preventative Solution: Middleware

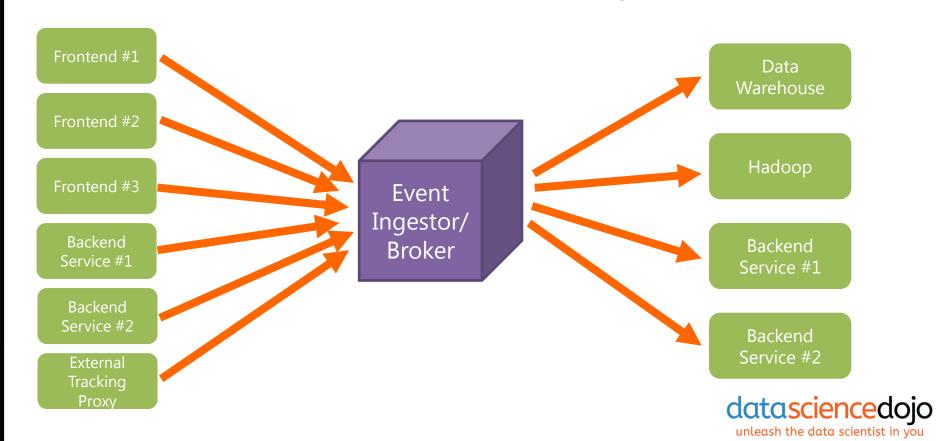


unleash the data scientist in you

## Data Pipeline Complexity at LinkedIn



## Data Pipeline Complexity at LinkedIn



## **Popular Event Brokers**

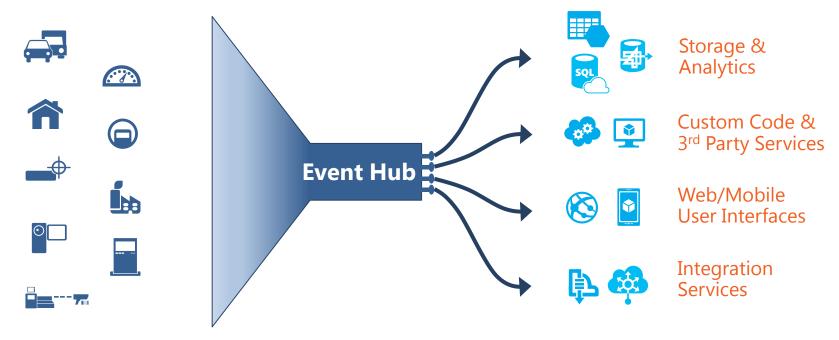
# **L**RabbitMQ<sub>TM</sub>







## **Event Hub for IoT: Big Data Ingestion**



**Event Sources** 

**Cloud Services** 



#### Server Down

Frontend #2

Frontend #3

Backend
Service #1

Backend Service #2

> External Tracking Proxy

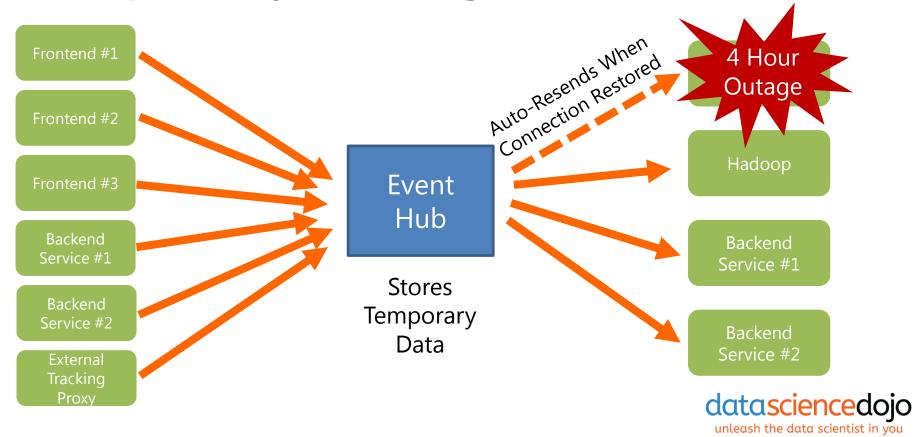
4 Hour Outage

> Backend Service #1

> Backend Service #2



## **Temporary Storage**

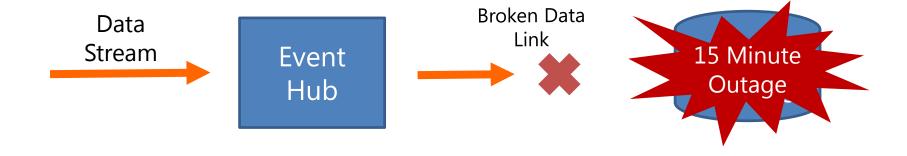


#### **Demo: Normal Scenario**



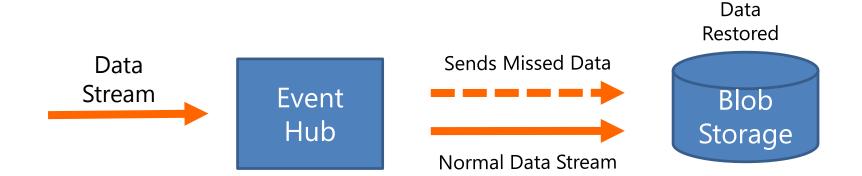


## Demo: Output Downage





# **Demo: Output Restored**





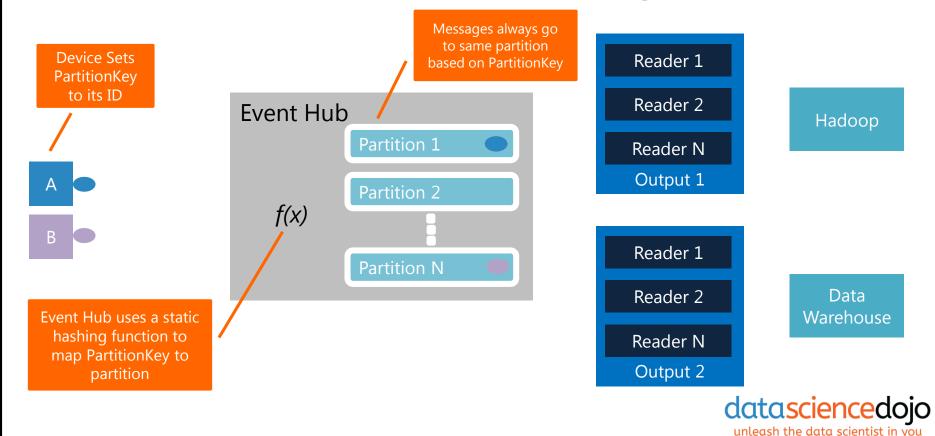
#### The Post Office



- 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, Stream Management



## Service Bus Namespace

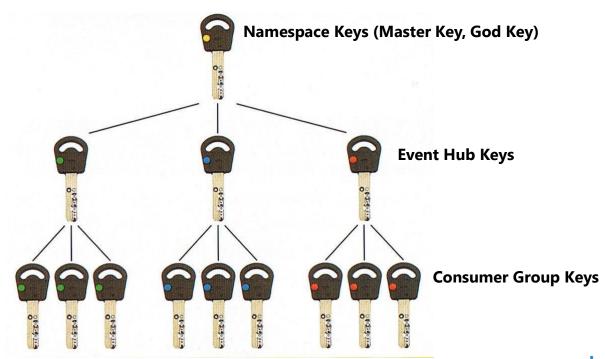
Service Bus Namespace

**Event Hub** 

Event Hub

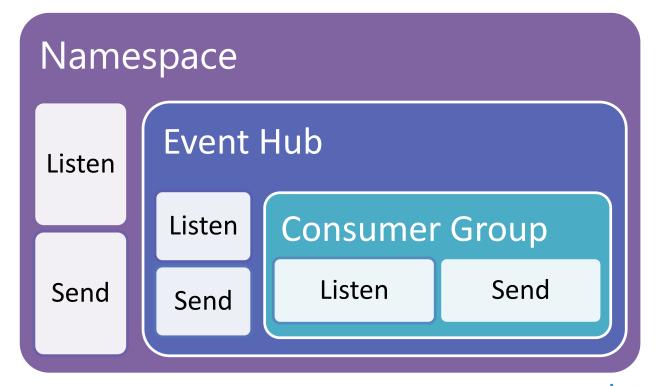


# Access Rights, Policy, Keys





# **Access Rights**





# **Access Rights**

Device Send Event Hub Listen Consumer



# Supported Languages

**Documentation Available** 







Supported But Documentation Still Pending











#### Hands-On Lab



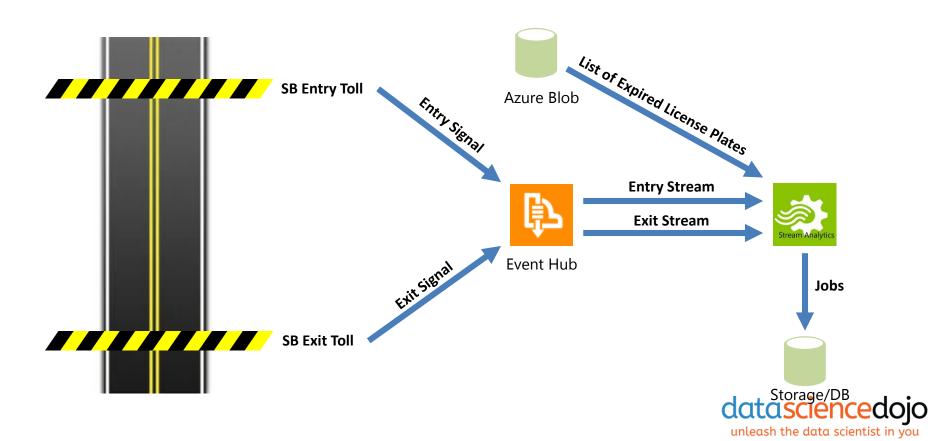
#### Tolls on I-405



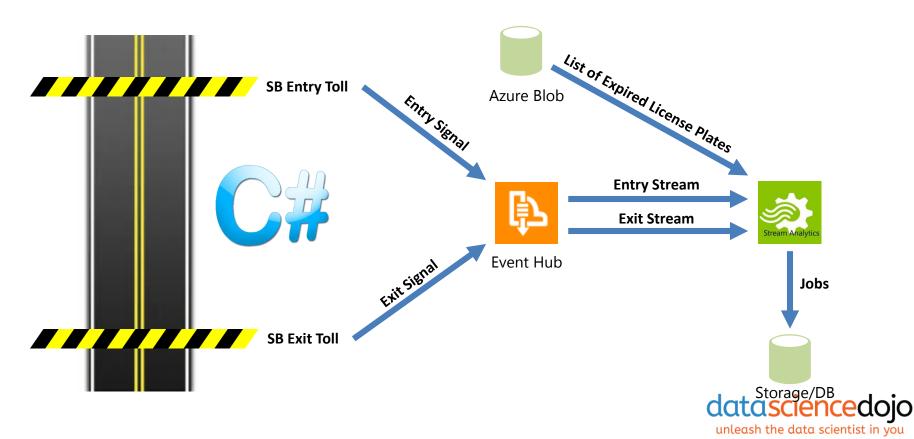




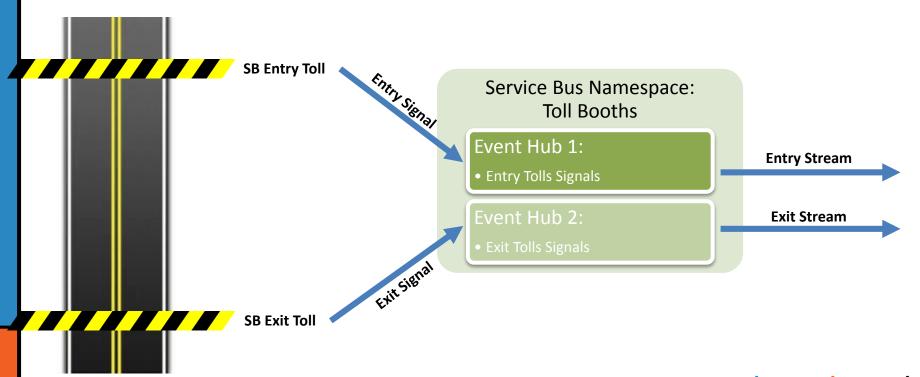
#### **Automated Tolled Road Demo**



# Streaming to Event Hub



#### Inside the Event Hub





#### QUESTIONS

