

## Real-World Real-Time Digital Transformation

Steve Wilkes - Striim CTO & Co-Founder

## **Digital Transformation**

Digital transformation is the integration of digital technology into all areas of a business resulting in fundamental changes to how the businesses operates and how they deliver value to customers







## Transforming All Aspects of Business



**CUSTOMER EXPERIENCE & ENGAGEMENT** 

**OPERATIONAL EXCELLENCE & EFFICIENCY** 



RISK, SECURITY & COMPLIANCE



**INNOVATIVE NEW SERVICES** 



# **Affecting Every Industry**



Financial Services



Healthcare



Manufacturing



Retail



Communication



Transportation/Logistics



Insurance



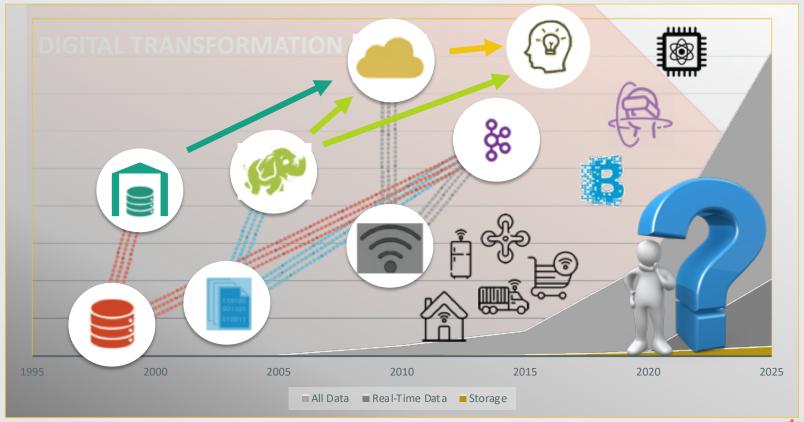
Public Sector



ΙT

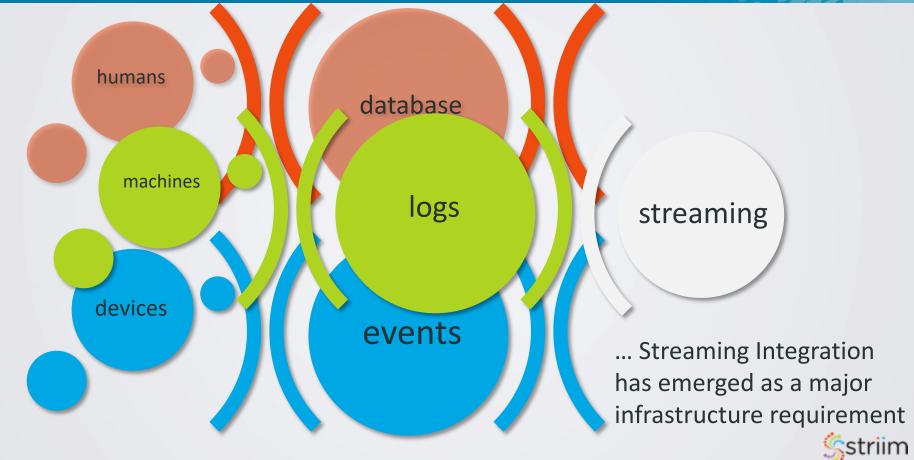


## **A Brief History of Data**

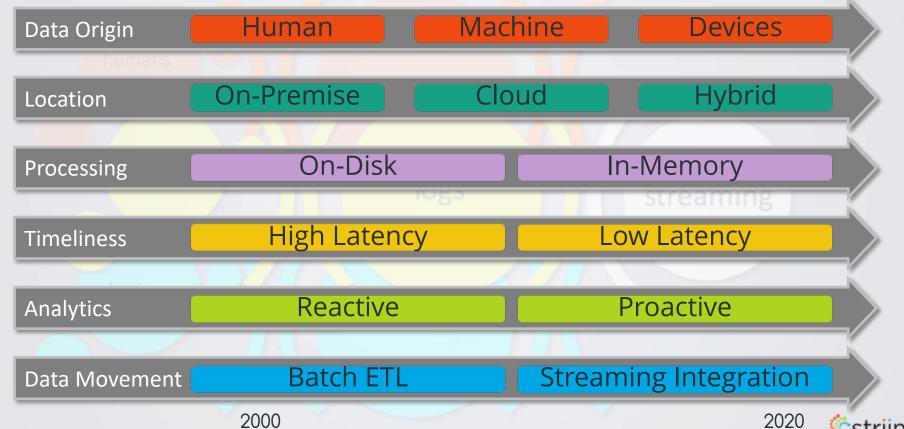




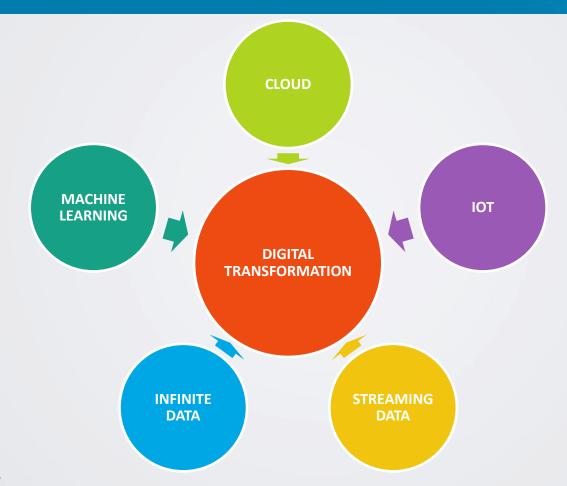
## **Data Arrives in Streams - Not Batches**



## **Data Trends**



## Multiple Technology Shifts Driving Digital Transformation





## Cloud Is Changing the Technology Landscape











Database

















Data Warehouse













Data Warehouse

**Big Data Analytics** 

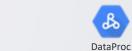












Big Data Analytics

Storage













Messaging











Kinesis



Pub Sub



Messaging

## **Cloud Provides Multiple Transformation Opportunities**

## **Hybrid-Cloud**

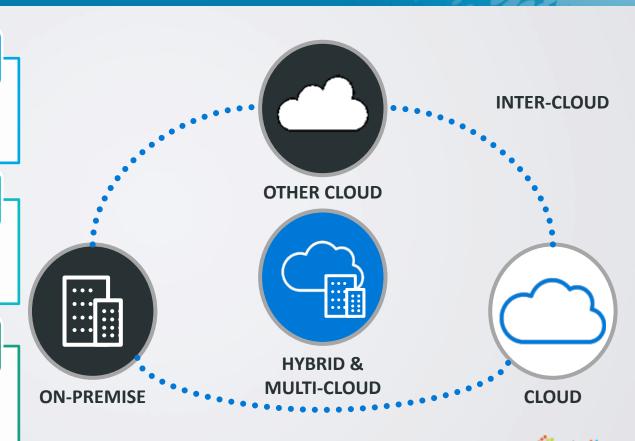
Adopting a Cloud Platform

## Multi-Cloud

Adding Another Cloud Platform

## Inter-Cloud

- Switching Cloud Platforms
- Synchronizing Cloud Platforms



## Streaming Integration is the Engine of Digital Transformation



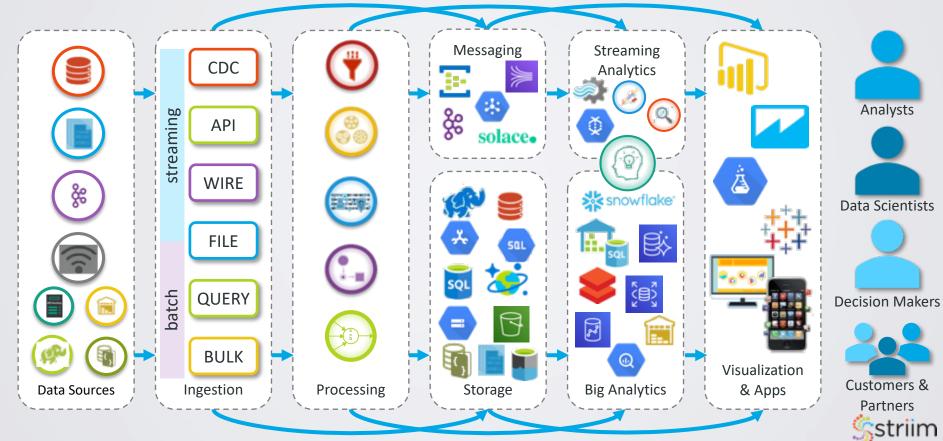
Handling extreme volumes of data at scale with high throughput

Processing, analyzing, and correlating data in flight

Making data valuable, verifiable, and visible in real time



## Digital Transformation Requires a Modern Data Architecture



## **Build On, and Integrate Legacy Castles**

Digital Transformation involves moving to a "streaming first" data architecture, supporting cloud, streaming analytics, and IoT, while integrating legacy resources

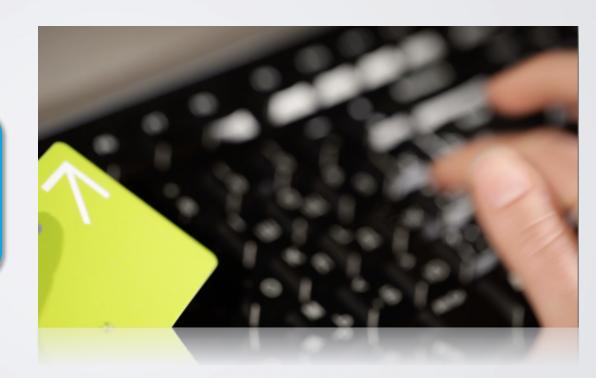
Bridge the old and new worlds of data

Streaming data from legacy systems brings new value and possibilities for old castles



## **Customer Case Studies**

REAL-WORLD
REAL-TIME
DIGITAL TRANSFORMATION





## **Credit Agency**

# Automate and reduce the latency of employment

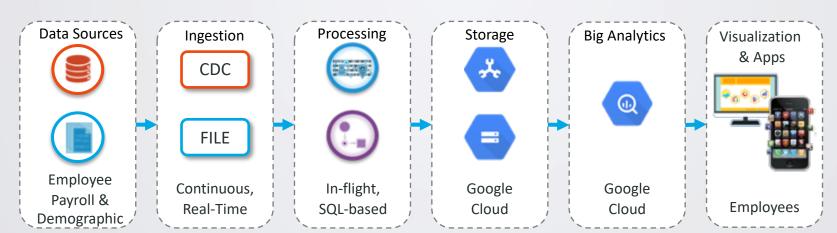
verification process

#### Modernization

- Utilize real-time CDC from DB and GoldenGate files
- Use cloud storage and processing to automate

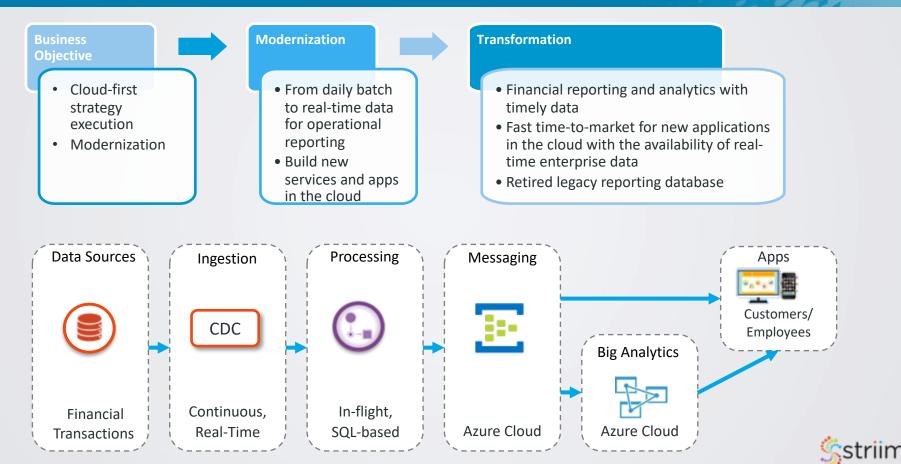
#### Transformation

- Streamlined process reduces the time it takes to detect employment changes
- Accelerated loan origination process for lenders
- More confidence for lenders
- Improved borrower experience





## **North American Commercial Bank**





- **Business agility** to stay at the #1 position
- Increase revenue
- Prevent fraud

#### Modernization

- Adopt real-time CDC from Aliyun cloud hosted databases
- Use cloud DW for operational decision making

#### **Transformation**

- Data latency from 8 hours to real time
- Lower out-of-stock & inventory surplus issues
- Real-time promotions based on context
- Fraud detection in vendor loans and in limited quantity per shopper promotions

#### **Data Sources**



Product, Sales, Inventory, Web Site, Customer Behavior...

#### Ingestion

CDC

Continuous, Real-Time

### **Processing**



In-flight, SQL-based incl. for Audit tables

## **Big Analytics**



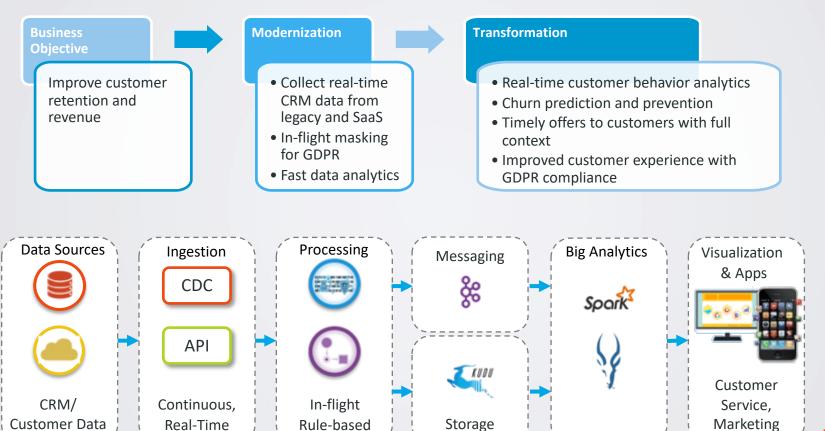
Google **BigQuery**  Visualization



Real-Time Inventory, Order, Sales Dashboard

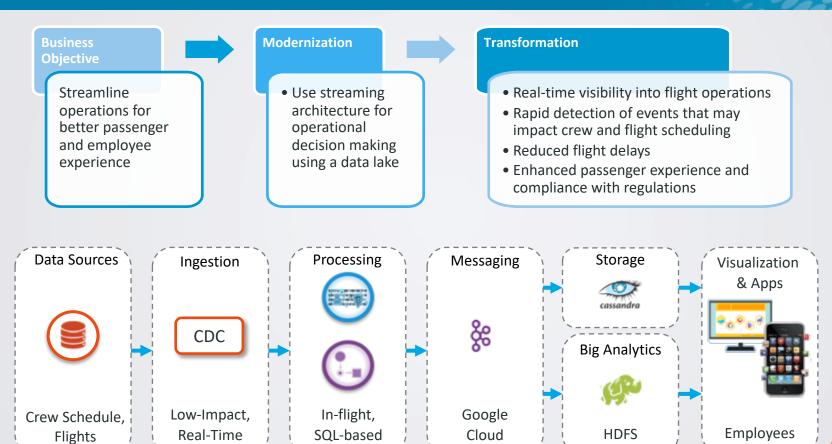


## **European Satellite Pay TV Provider**



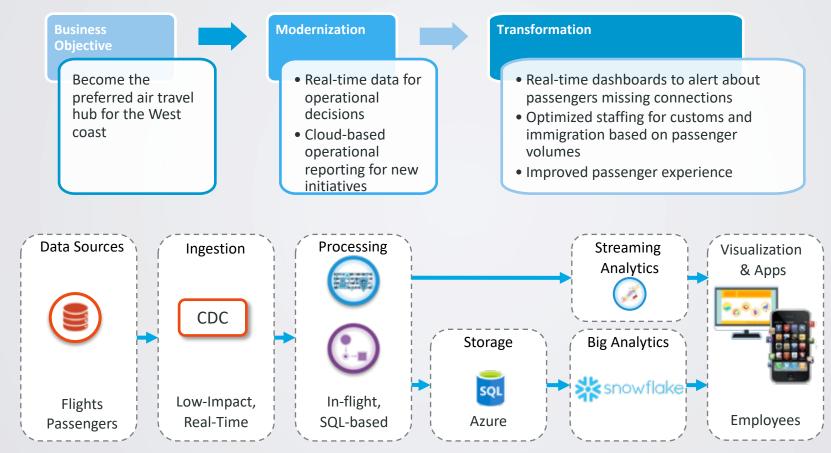


## **Major Global Airline**



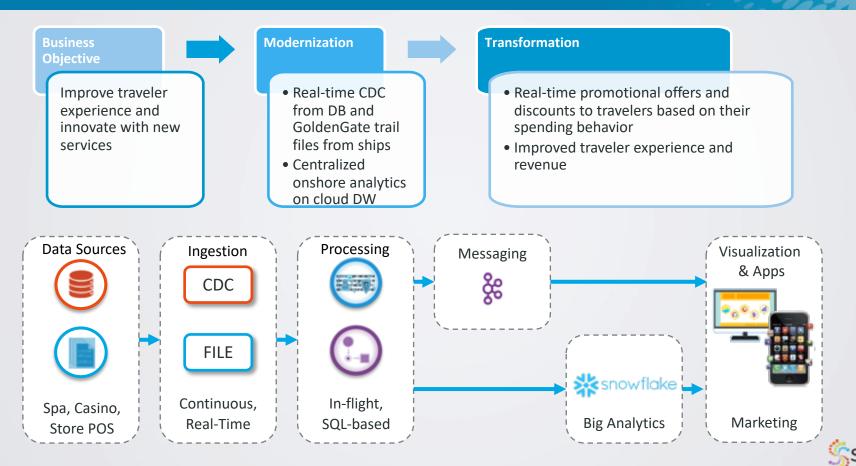


## **North American Airport**



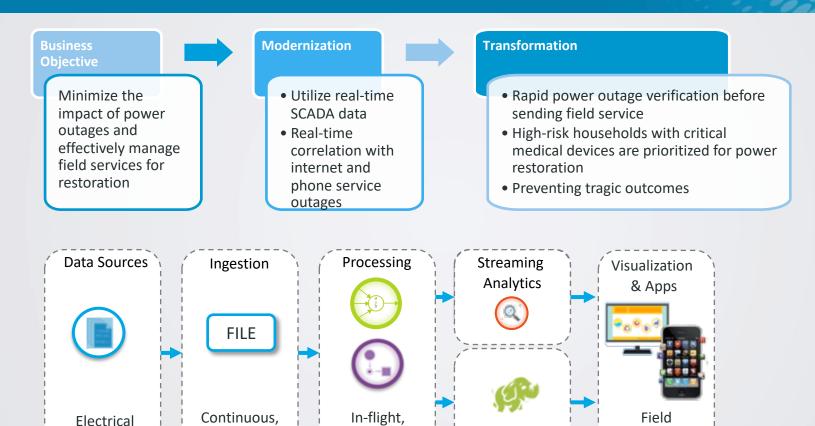


## **Cruise Line**



## **European Energy Distributor**

Real-Time



SQL-based

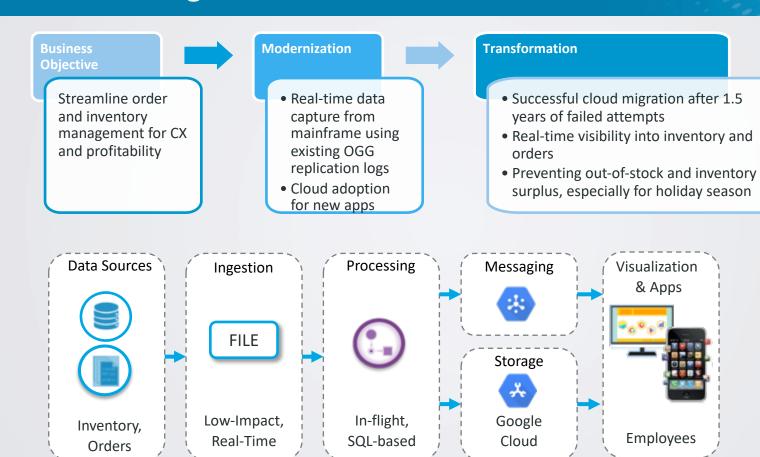
**Big Analytics** 

**Operations** 



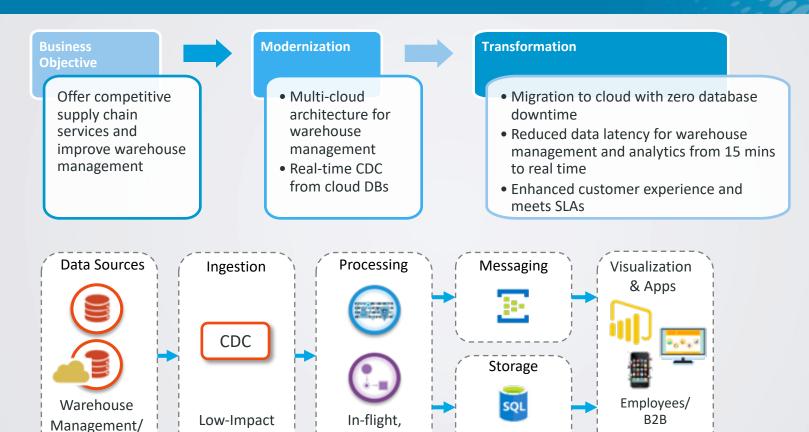
SCADA logs

## **U.S.** Based Large Retailer





## Package Delivery and Supply Chain Solutions Provider



SQL-based

Azure Cloud

Customers



Supply Chain

Real-Time



## **Streaming Integration with Striim**

#### **CONTINUOUS DATA COLLECTION**

#### Parsers

Delimited JSON XMI Free Text Binary Name/Value Zipped AVRO GoldenGate Apache Log Svs Log MS Event Log Mail Log **SNMP** CollectD CFF DHCP Log

WCF

+Others





Files Log Files
System Files
Batch Files

Network TCP
UDP
HTTP
MQTT
Netflow
PCAP

Messaging Kafka Flume JMS

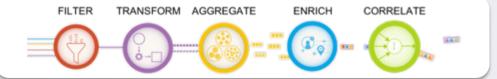
OPC-UA

**AMQP** 

Big Data HDFS HBase Hive



#### IN-MEMORY DATA PIPELINE





#### **CONTINUOUS DATA DELIVERY**



Cassandra

Impala

Kudu (preferred)

Azure Blob/DL

Azure SQL DB

Azure SQL DW

Amazon S3

Azure HDInsight

Amazon Redshift

Google Big Query Google Pub-Sub

Amazon Kinesis

Microsoft (preferred)

Cloud

#### Formats

Delimited JSON XML AVRO Template



## **Striim: A Next Generation Platform**

**Data Distribution** 





ON-PREMISES AND CLOUD SOURCES





REAL-TIME, CONTINUOUS DATA MOVEMENT

Big Data/

Analytics

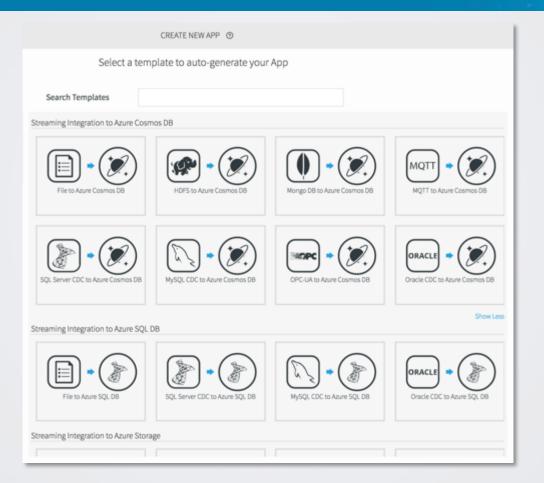
Digital

Transformation

CLOUD TARGETS

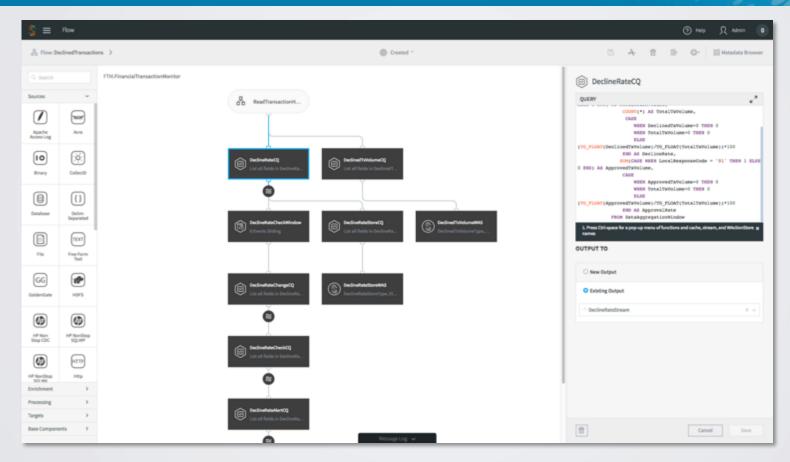


## **Wizards Based-Ul**



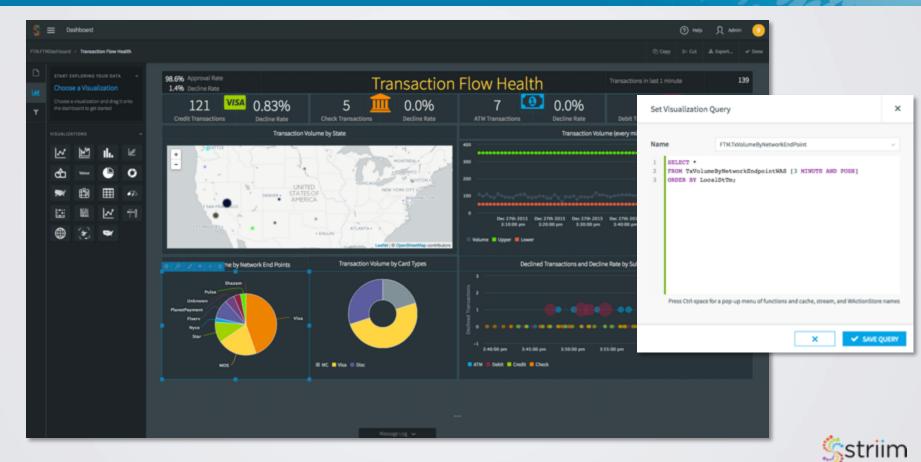


## **Integration and Analytics Through Data Flows**





## **Visualization Through Streaming Dashboards**





## **Thank You**



Resources

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