

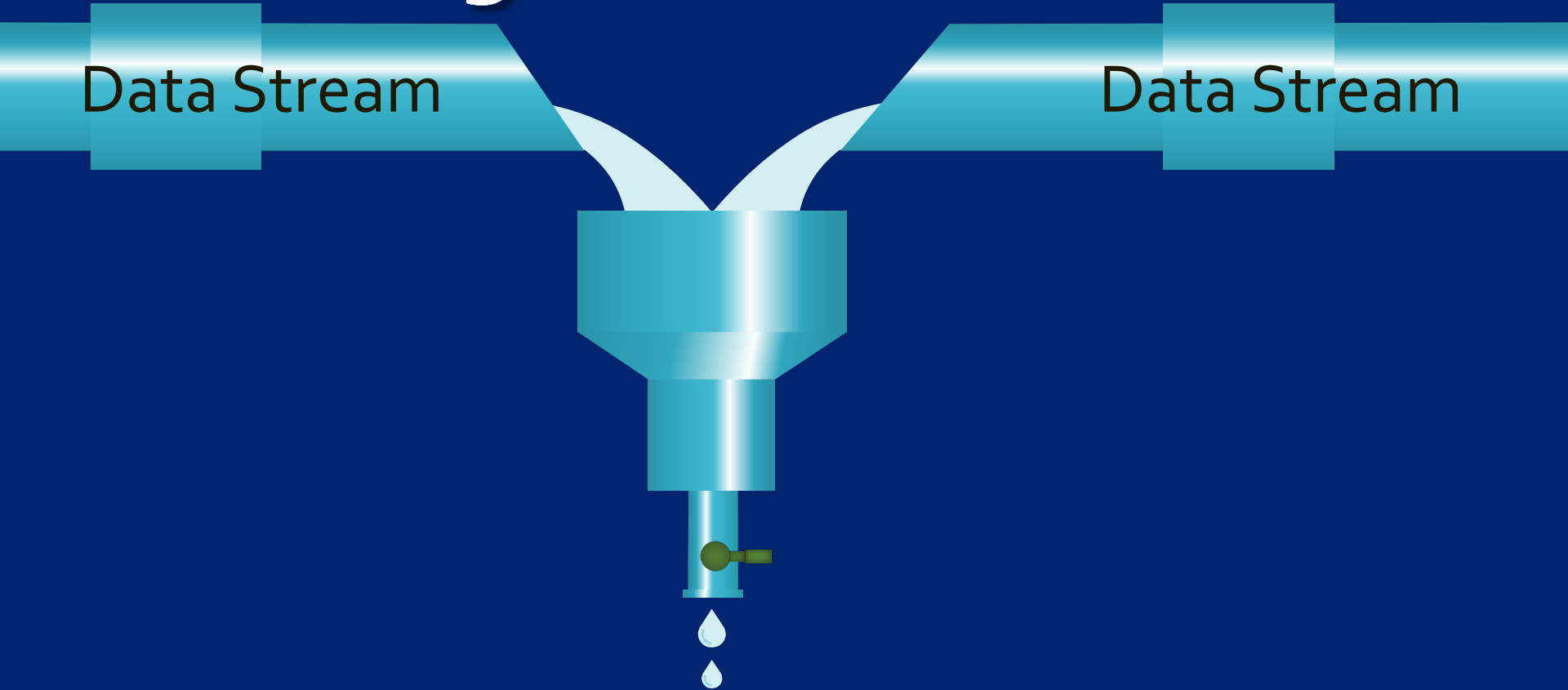
What is a Data Stream?



After this video you will be able to..

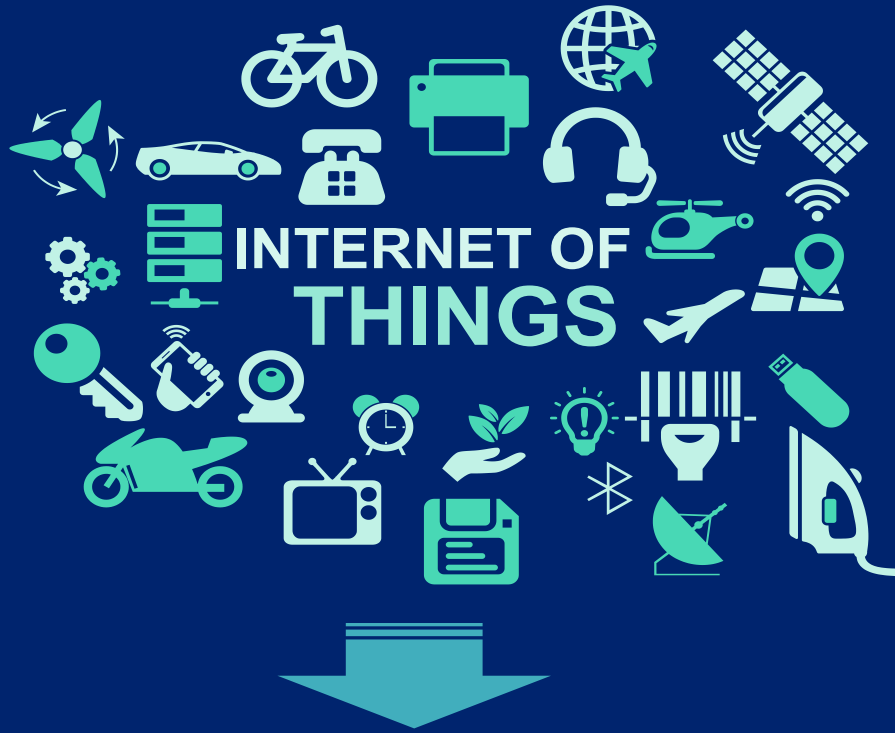
- Summarize the key characteristics of a data stream
- Identify the requirements of streaming data systems
- Recognize the data streams you use in your life

Streaming Data



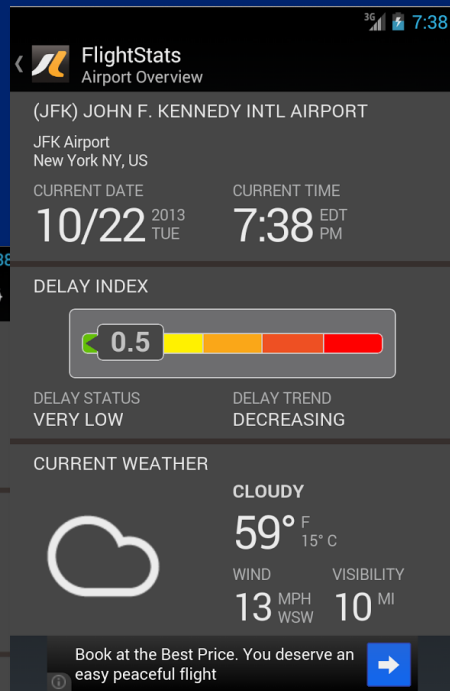
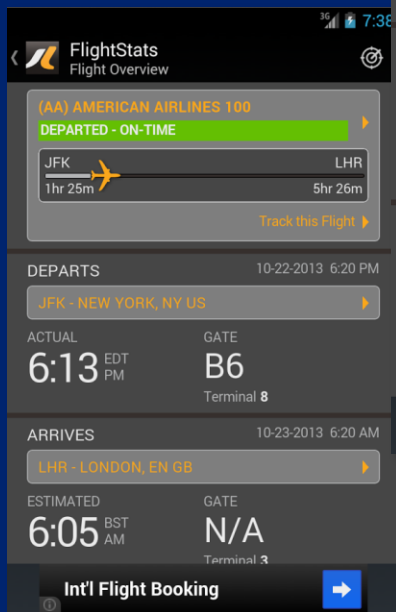
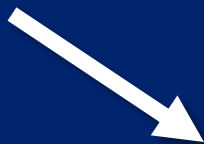
Social Media



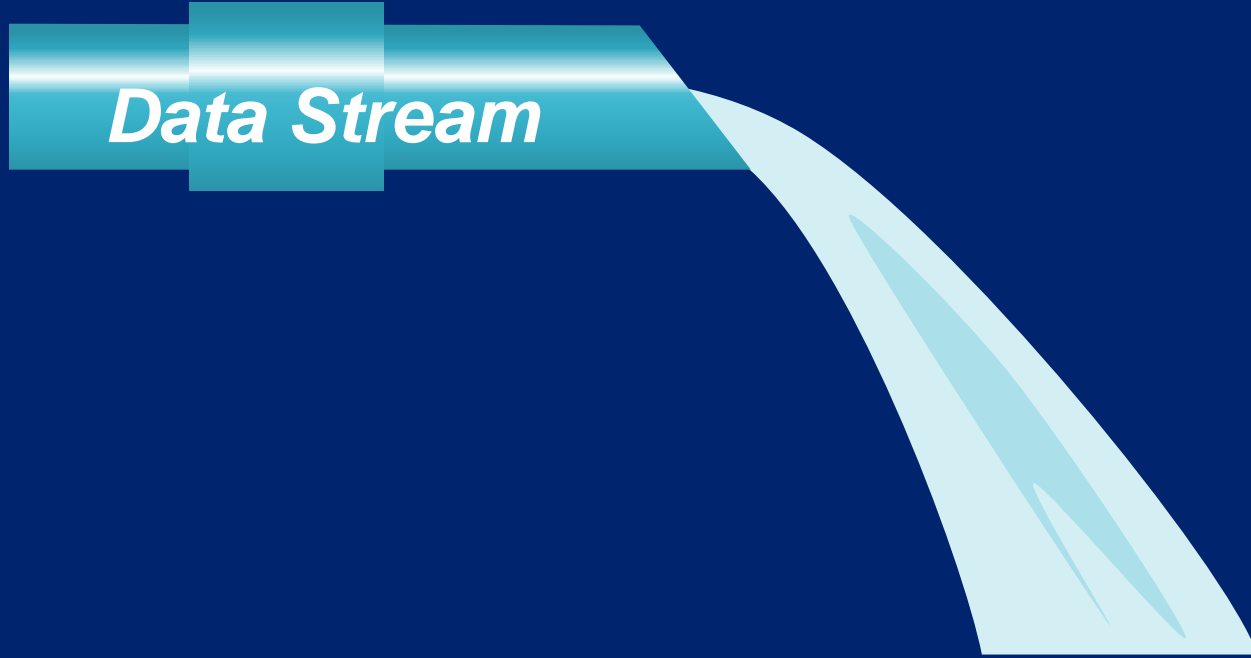


Monitoring and Fault
Detection

~60M Flight Events Weekly!



What is a Data Stream?



What is a Data Stream?



Data Stream

*A possibly unbounded sequence
of data records*

What is a Data Stream?



Data Stream

*A possibly unbounded sequence
of data records*

Timestamped

Geo-tagged

Synchronized sequence of events



Streaming Data Systems

Streaming Data
System

Data Streams

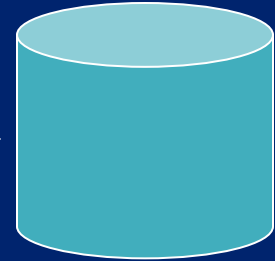
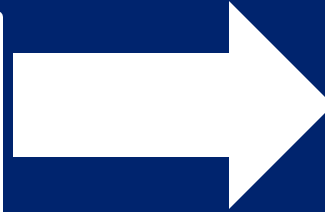


Streaming Data Systems

Streaming Data
System

Data Streams

Manage one record or
small time window



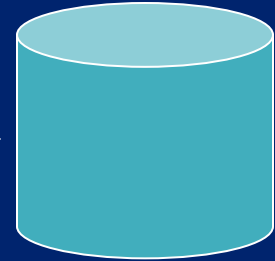
Streaming Data Systems

Streaming Data
System

Data Streams

Manage one record or
small time window

Near-real-time



Streaming Data Systems

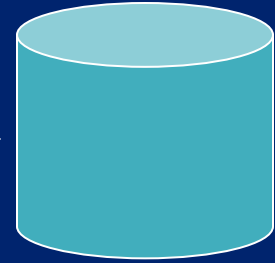
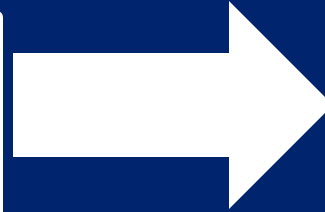
Streaming Data
System

Data Streams

Manage one record or
small time window

Near-real-time

Independent
computations



Streaming Data Systems

Streaming Data System

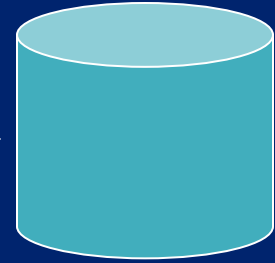
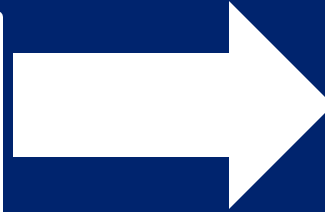
Data Streams

Manage one record or
small time window

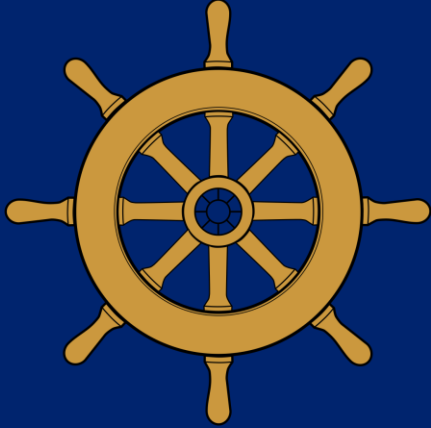
Near-real-time

Independent
computations

Non-interactive



Dynamic Steering



Dynamic Steering



Some Streaming Data Systems



Apache Kafka



Apache Samza

samza



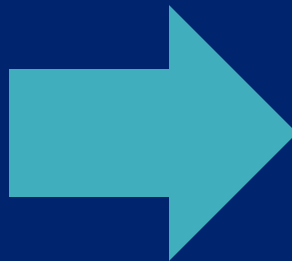
Streaming Data Systems

Manage one record or
small time window

Near-real-time

Independent
computations

Non-interactive



Many challenges!