Tigon

REALTIME STREAMING FOR THE REAL WORLD

Tigon is a distributed framework built on Apache Hadoop™ and Apache HBase™ for realtime, high-throughput, low-latency data processing and analytics applications.

CHALLENGES WITH EXISTING TECHNOLOGY

Support for only in-memory processing

- No support for an integrated, scalable persistence layer
- No support for model-based streaming

Semantics

- Hard-to-reason semantics
- No support for true only-once semantics

Operational complexity

- Fault Tolerance must be dealt with
- Scalability at run-time not possible
- Security not well integrated
- Logging, Metrics & Alerting

Developer experience

- Cumbersome operative programming paradigm
- Declarative language capability are limiting
- No easy testing capabilities
- No easy way to debug distributed real-time applications

THE TIGON SOLUTION

at&t

AT&T has been solving Big Data problems for years.

The company is leveraging open source technology to further its Big Data initiatives and wants to drive innovation and adoption by contributing to the open source community.

CASK

Cask is a Big Data company with disruptive new technology built on Apache Hadoop™.

The company has a deeply experienced team that has developed and supported some of the largest real-time Hadoop applications in the world.

A common vision

Empowering developers and helping enterprises build scalable real-time Big Data solutions

KILLER PERFORMANCE

- 10s of millions of events per second
- Scales to 100s of nodes
- Millions of concurrent streams
- Millions of data operations per second

DEEP INTEGRATION

- Runs and scales as a native Hadoop YARN Application
- Reads, writes, and tightly integrates with HDFS and HBase

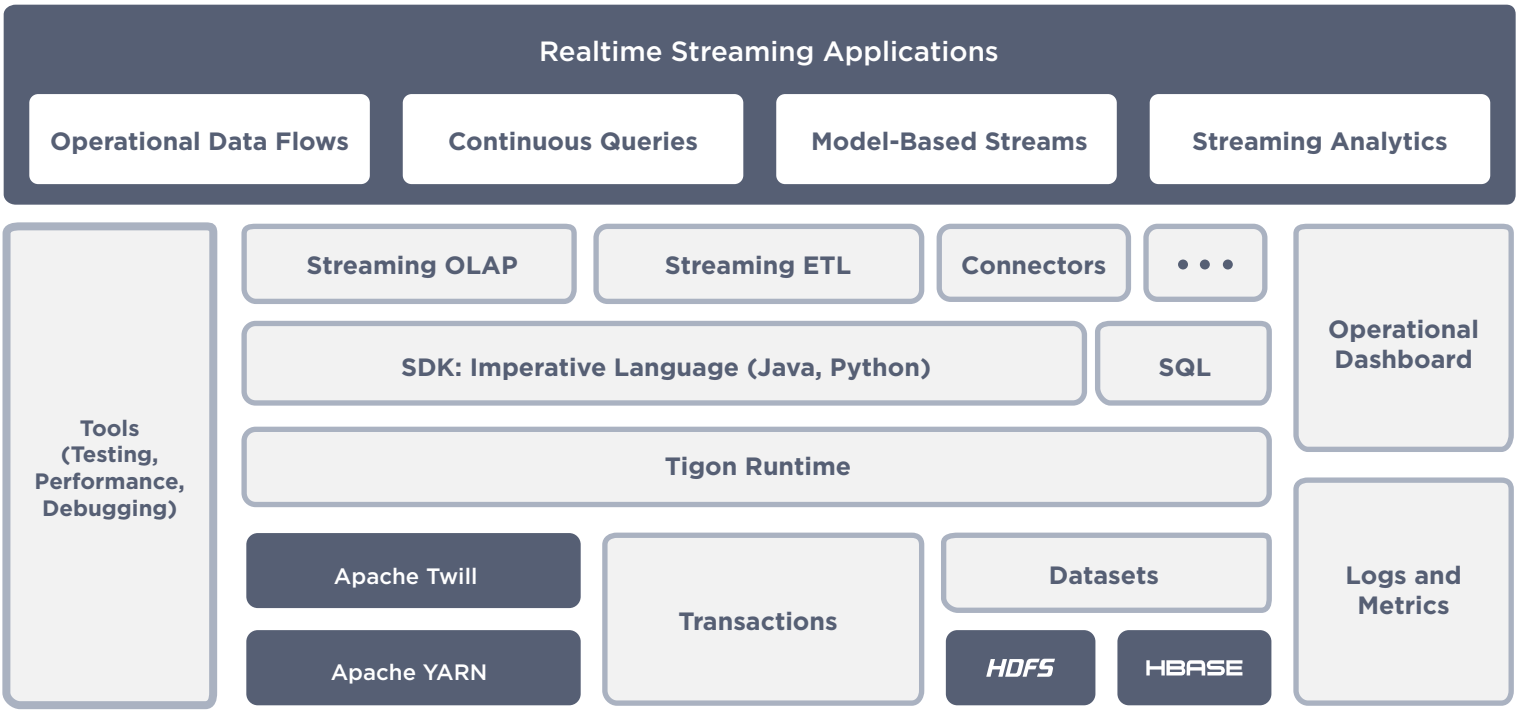
SIMPLE SEMANTICS

- Exactly-once event processing using an app-level Java API with consistency, reliability, and persistence
- Stream processing using a SQL-like language

PRODUCTION READY

- Fault-tolerance and horizontal Scalability without burdening the developer
- Security features in addition to debugging, logging, and monitoring tools

Tigon Architecture



SAMPLE USE CASES

FLIGHT PATH TRACKING

Anomaly Detection

- **PROBLEM**

Track multiple aircraft simultaneously to detect any deviations from the proposed flight paths

- **ATTRIBUTES**

Realtime, streaming event data and models to learn flight path

- **SOLUTIONS**

In-memory stream querying solution backed by stream-based learning models

SMART CITIES

Advanced Monitoring and Alerting

- **PROBLEM**

Monitor utility consumption to reduce spending & wastage; better management of public resources: parking spots to electricity grid

- **ATTRIBUTES**

Fault-tolerance, real-time alert systems, low cost commodity hardware solutions

- **SOLUTIONS**

Fault-tolerance, streaming application with querying capabilities and eventual processing guarantees

AGRICULTURE

IoT-Scale Apps

- **PROBLEM**

Monitoring large sensor networks and public data for improving yield through better irrigation and pest control

- **ATTRIBUTES**

IoT scale data processing, joining with weather data, handle vast amounts of structured and unstructured data

- **SOLUTIONS**

Full power of SQL joins over streaming data sources, support high speed data ingestion, big data application solution for high speed frictionless development

FINANCE

IoT-Scale Apps

- **PROBLEM**

The number and size of large scale data sources that can be used for market intelligence continues to increase with the rise of electronic trading and social media, but it is difficult to hire engineers with the necessary skills to exploit this data

- **ATTRIBUTES**

Large-scale data ingestion and processing, joining of structured and unstructured data sources, developer accessibility

- **SOLUTIONS**

Simple and scalable real-time event processing with high-throughput ingestion, joins over streaming data sources, custom big data application development with existing talent

PRODUCT AVAILABILITY AND DOWNLOADS

Tigon is available today as a developer preview. The production release and publication of subscription options for Tigon is scheduled for the 4th quarter of 2014.
Contact ***sales@cask.co*** for more details on price and availability.

Tigon is supported on *NIX systems such as Linux and Macintosh OS X. It is not supported on Microsoft Windows.

Download from http://cask.co/downloads/#tigon