

# THE KAFKA ECOSYSTEM - KAFKA CORE, KAFKA STREAMS, KAFKA CONNECT, KAFKA REST PROXY, AND THE SCHEMA REGISTRY

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## The Kafka Ecosystem - Kafka Core, Kafka Streams, Kafka Connect, Kafka REST Proxy, and the Schema Registry

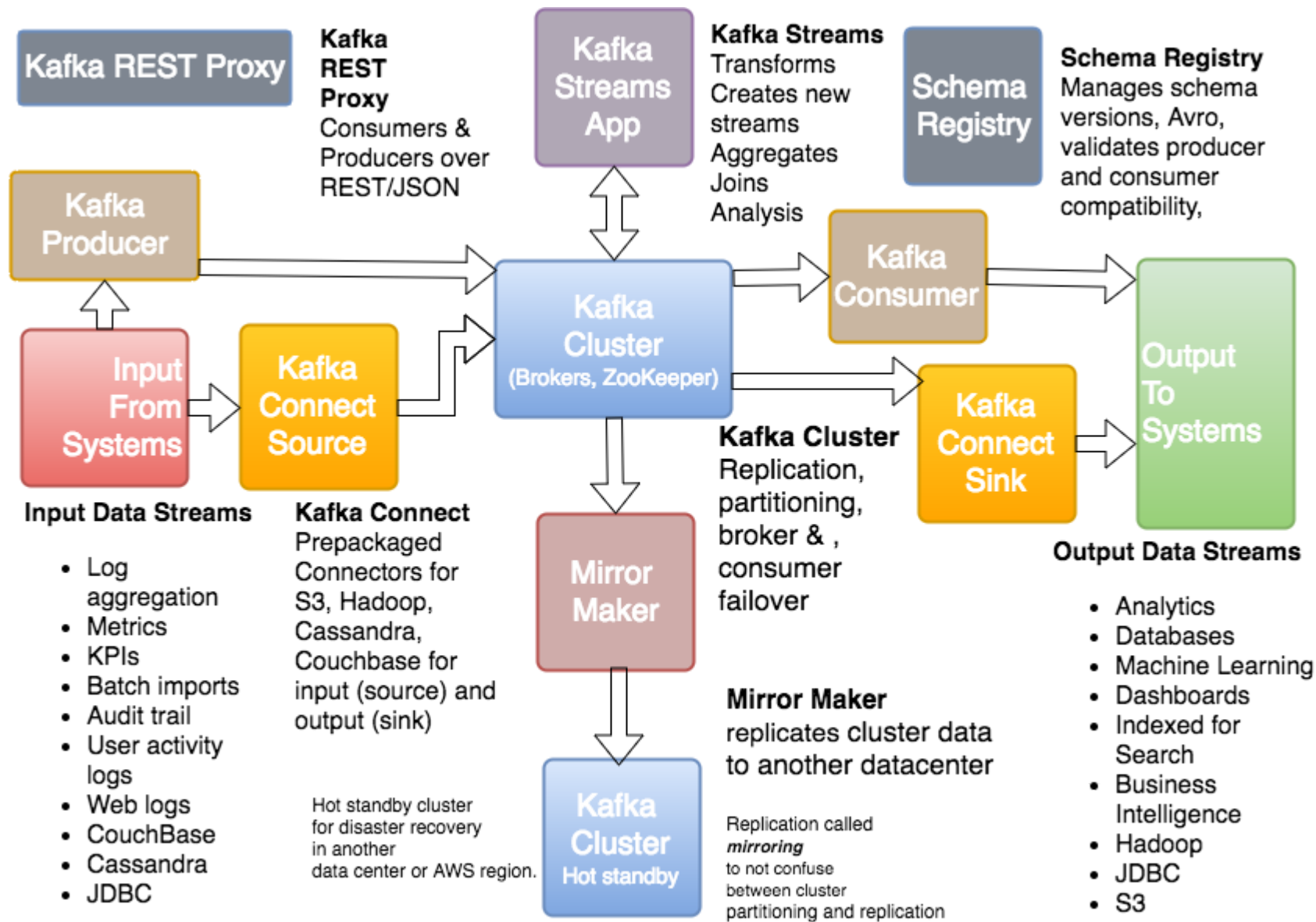
The core of Kafka is the brokers, topics, logs, partitions, and cluster. The core also consists of related tools like MirrorMaker. The aforementioned is Kafka as it exists in Apache.

The Kafka ecosystem consists of Kafka Core, Kafka Streams, Kafka Connect, Kafka REST Proxy, and the Schema Registry. Most of the additional pieces of the Kafka ecosystem comes from Confluent and is not part of Apache.

Kafka Stream is the Streams API to transform, aggregate, and process records from a stream and produces derivative streams. Kafka Connect is the connector API to create reusable producers and consumers (e.g., stream of changes from DynamoDB). The Kafka REST Proxy is used to producers and consumer over REST (HTTP). The Schema Registry (<http://cloudurable.com/blog/kafka-avro-schema-registry/index.html>) manages schemas using Avro (<http://cloudurable.com/blog/avro/index.html>) for Kafka records. The Kafka MirrorMaker is used to replicate cluster data to another cluster.

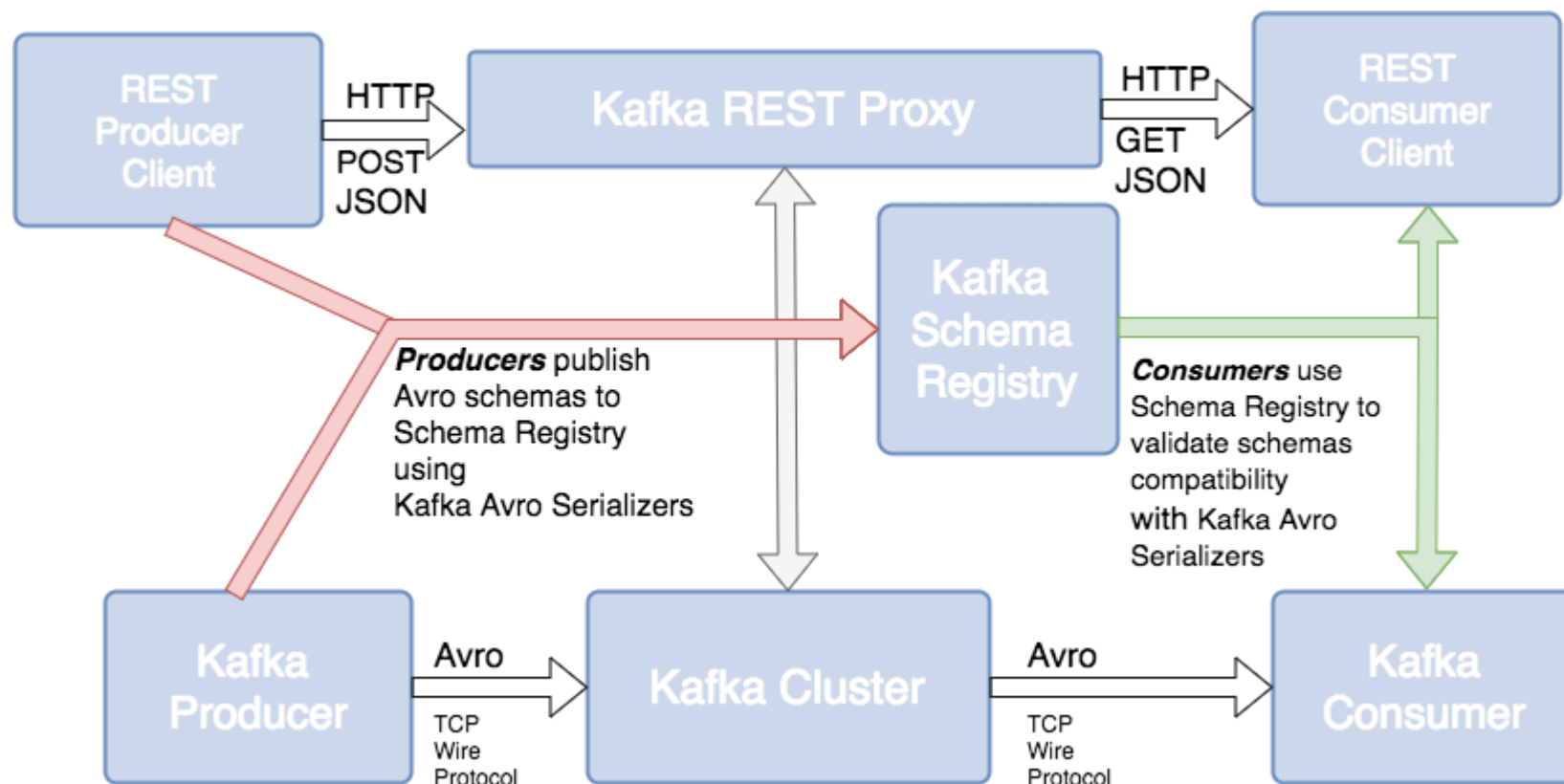
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### Kafka Ecosystem: Diagram of Connect Source, Connect Sink, and Kafka Streams



Kafka Connect Sources are sources of records. Kafka Connect Sinks are destination for records.

## Kafka Ecosystem: Kafka REST Proxy and Confluent Schema Registry

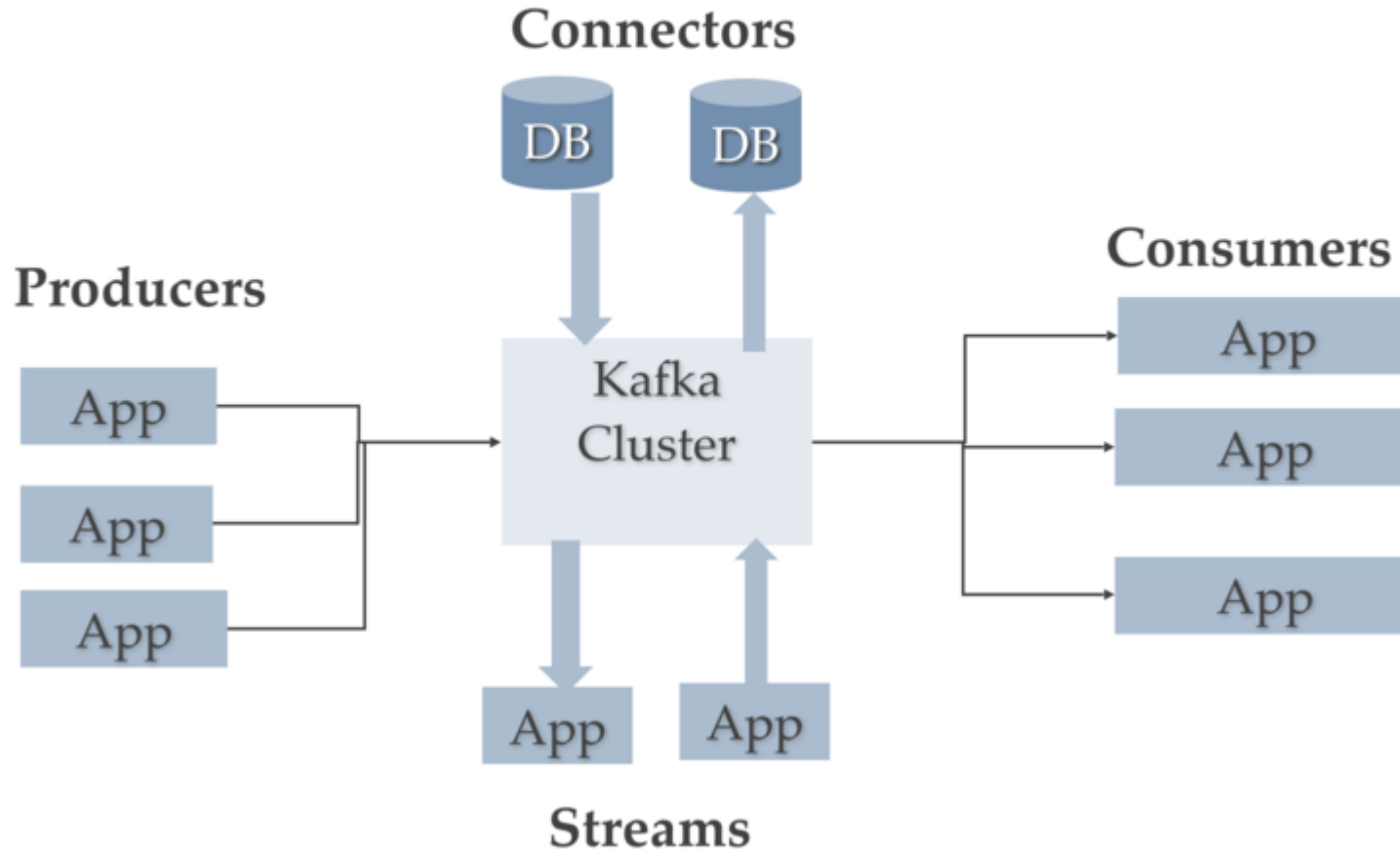


## Kafka Streams - Kafka Streams for Stream Processing

The Kafka Stream API builds on core Kafka primitives and has a life of its own. Kafka Streams enables real-time processing of streams. Kafka Streams supports stream processors. A stream processor takes continual streams of records from input topics, performs some processing, transformation, aggregation on input, and produces one or more output streams. For example, a video player application might take an input stream of events of videos watched, and videos paused, and output a stream of user preferences and then gear new video recommendations based on recent user activity or aggregate activity of many users to see what new videos are hot. Kafka Stream API solves hard problems with out of order records, aggregating across multiple streams, joining data from multiple streams, allowing for stateful computations, and more.

## Kafka Ecosystem: Kafka Streams and Kafka Connect

# Kafka Connectors and Streams



## Kafka Ecosystem Review

### What is Kafka Streams?

Kafka Streams enable real-time processing of streams. It can aggregate across multiple streams, joining data from multiple streams, allowing for stateful computations, and more.

## What is Kafka Connect?

Kafka Connect is the connector API to create reusable producers and consumers (e.g., stream of changes from DynamoDB). Kafka Connect Sources are sources of records. Kafka Connect Sinks are a destination for records.

## What is the Schema Registry?

The Schema Registry manages schemas using Avro for Kafka records.

## What is Kafka Mirror Maker?

The Kafka MirrorMaker is used to replicate cluster data to another cluster.

## When might you use Kafka REST Proxy?

The Kafka REST Proxy is used to producers and consumer over REST (HTTP). You could use it for easy integration of existing code bases.

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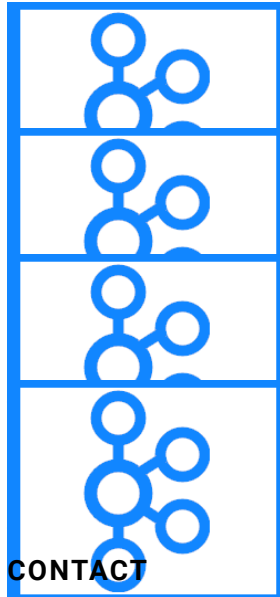
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