

# Top 15 Kafka Alternatives Popular In 2021

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*Apache Kafka is a framework implementation of a software bus using stream-processing. It is an open-source software platform developed by the Apache Software Foundation written in Scala and Java. – [Wikipedia](#)*

## What Is Kafka?

Kafka is an open-source streaming platform that is a distributed, partitioned, and replicated log service. It offers a messaging system functionality with a unique design of its own. It was originally developed by **LinkedIn** and then taken over by **Apache Foundation**. It manages real-time data feeds with low latency and high throughput platform.

As a popular publish-subscribe-messaging system, Kafka is known to manage huge volumes of data, handling both offline and online messages both. It integrates well with Apache Storm and Spark. Certain key features of Kafka include scalability, fault tolerance, durability, reliability, zero downtime, performance, replication, extensibility.

The basic structure of Kafka technology consists of a Producer, Kafka Clusters, and Consumers. It looks like a traditional broker messaging channel but has a different architecture and complicated circumstances. There are certain hurdles that it faces – lack of speed, message tweaking, lesser message paradigms, etc. which is why certain alternatives to Kafka are now getting popular.



Through this article, we are attempting to lay down popular **Kafka alternatives and competitors** that can fulfill your requirements.



## Kafka Alternatives And Competitors

- Apache Spark
- RabbitMQ
- ActiveMQ
- Amazon Kinesis
- Red Hat AMQ

- Redis
- Apache Flume
- Fluentd
- Akka
- Workato
- Appmixer

Here is an overview of Kafka alternatives and reasons for their popularity

## Apache Spark:

Apache Spark is a well-known, general-purpose, open-source analytics engine for large-scale, core data processing. It is known for its high-performance quality for data processing – batch and streaming with the help of its DAG scheduler, query optimizer, and engine. Data streams are processed in real-time and hence it is quite fast and efficient. Its machine learning competencies are also quite accurate.

Spark helps write applications easily with the support of programming languages like **R, SQL, Scala, Java, Python**, etc. There are inherent and effective libraries for stream processing, SQL, and graph computation. These libraries can be seamlessly combined for effective analytics, streaming, and SQL computations.

It is simple to use and has multiple operators for data transformation and data manipulation. Spark is more so used by data scientists and analysts who are involved in machine learning jobs and analytical techniques. Its interactive analytics engine helps in collating project data with ease and an operational output.



## RabbitMQ:

RabbitMQ is an open-source message broker that is lightweight, easily deployable on the cloud. It operates on multiple operating systems and cloud-based infrastructure, offering a variety of developer tools for many languages. It provides good support for many messaging protocols. It can be implemented in distributed environments for high availability needs. It supports asynchronous messaging service, offers a great developer experience with languages like **Java, Go, Ruby, Python, .NET**, etc.

RabbitMQ offers distributed deployment across varied regions and availability zones. Since it is light weighted, it can easily be deployed across private and public clouds. It has a flexible plug-in approach and a variety of tools to support continuous integration and operational metrics. Since it is written in Erlang, which is quick and concurrent, RabbitMQ leverages the goodness of the same.

It offers great developer backing and community support. Since it uses a broker architecture, it can handle complex methods of message passing with ease and effectiveness. It makes use of the Smart broker/Dumb consumer approach for delivering messages regularly. Being a mature technology, it supports a lot of libraries like PHP, NodeJS, Java, .NET, etc.

Good Read: [RabbitMQ vs Kafka: Comparing Two Popular Message Brokers](#)

## ActiveMQ:

Apache ActiveMQ is a popular, open-source, flexible multi-protocol messaging broker. Since it has great support for industry-based protocols, developers get access to languages and platforms. It helps in connecting clients written in languages like **Python, C, C++, JavaScript**, etc. With the help of the AMQP protocol, integration with many applications with different platforms is easily done. It provides the capability to support any kind of messaging use-case.

ActiveMQ offers features like high-end data accessibility, message load balancing, flexible resource allocation, and management. It can easily be embedded into any application and its simple, yet powerful message semantics can be quite helpful in exchanging messages. It is known for its flexible resource allocation and managing them. It has good support for

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consumers, lessening the latency concerned in message processing.

## Amazon Kinesis:

Amazon Kinesis, also known as **Kinesis Streams**, is a popular alternative to Kafka, for collecting, processing, and analyzing video and data streams in real-time. It offers timely and insightful information, streaming data in a cost-effective manner with complete flexibility and scalability. It is easy to ingest data encompassing audios, videos, app logs, etc. It offers an instant response to data that arrives and hence is fast and effective.

It is a fully managed technology and effectively executes streaming applications without any further infrastructure management. It is highly scalable and can manage any amount of data processing from varied sources with low latency levels. It is well known for its speed, ease of operation, reliability, and cross-platform replication capacity. Kinesis has a feature to break streams across shards and hence users need to pay only for what they use.

Kinesis is a service by AWS and hence doesn't need a DevOps team to operate it. It is recommended for different functions like geospatial data connecting users, social networking data, data with IoT sensors, etc. It can be easily used for streaming video from camera-loaded devices in places like homes, factories, and offices. These video streams can then be used for face detection, machine learning, etc.

## Red Hat AMQ:



Red Hat AMQ is a powerful suite of components that depend upon communities like Apache Kafka and Apache ActiveMQ to offer a secure and lightweight solution. It is fast in execution and is a flexible messaging tool through which instant delivery of information can be done. It offers a quick response to organizational needs and integrates apps seamlessly across the enterprise.

It has an attractive feature of extending its integration boundaries to the outer edges of the organization. It enables real-time integration and a good connection with the IoT devices while creating modernized distributed applications. It is a messaging platform that offers instant information with trustworthy sources ensuring a real-time integration and smooth connection with IoT devices.

There is a great deal of technical support which is available from user communities. It deals with long-running queries through the effective combination of Kafka and ActiveMQ. The goodness of both is available in AMQ and hence is considered an ideal choice, as an alternative to Apache Kafka.

## Apache Storm:

Apache Storm is a recognized, distributed, open-source real-time computational system. It is free, simple to use, and helps in easily and accurately processing multiple data streams in real-time. Because of its simplicity, it can be utilized with any programming language and that is one reason it is a developer's preferred choice. It is fast, scalable, and integrates well with other queuing technologies.

It is fault tolerant and assures thorough processing of data. Developers find it easy to configure and operate. It can process over a million records every second of every node on a medium-sized cluster. It is widely used in industry segments like finance, retail, manufacturing, etc.

A typical Storm topology can consume multiple data streams and process them in a complicated manner, offering repartitioning as needed. It is written in Java and Clojure. It executes best for real-time data just like Hadoop. It executes on YARN and hence has good integration with the Hadoop ecosystem.

## Amazon SQS:

**Amazon SQS (Simple Queue Service)** is a fully managed, message queuing service for distributed systems, serverless


Without the need for extra components, it is easy now for sending, storing, and receiving messages within software components. Security of data is ensured.

SQS has two different types of message queues – standard queues and FIFO queues. It helps in reducing the administrative overload by proper management of all operations and infrastructure. There is reliability ensured while delivering any type of message, with complete security and privacy of data. It ensures sufficient scalability to ensure demand is fulfilled thereby, offering cost-effectiveness.

## IBM MQ:

Powered by a tech giant, IBM MQ is a popular message and transfer protocol that provides effective enterprise-level messaging competencies. It helps in securely transmitting information between applications. It offers trustworthy communication and connectivity across projects, maintaining multiple transactions with ease. It supports the once-and-only-once delivery pattern, reinstating assurance, and security.

IBM MQ is an easily usable interface with a great deal of reliability and security. Support is readily available in case needed anytime. It looks at handling the interoperability between various applications, be it within the organization or outside. It has asynchronous competencies and offers message integrity and relentless delivery. Because of its simplistic nature, it allows developers to focus on critical issues and easily manages any changes in transaction volumes.

 It is scalable, JMS compliant, stable, and supports different message types. It acts as a message center between applications and connects things virtually. This lessens the integration timing and costs involved. It has a secure design with proper disaster recovery mechanisms. It protects data with powerful data encryption and authentication. It acts as a buffer between applications and hence secures messages with ease, even during network disturbance.



## Sentry:

Sentry is a popular application monitoring and error tracking software that takes care of access to all important information ranging from monitoring performance to tracking errors. It provides total information about everything – ranging from frontend to backend. Performance issues can be tracked including those APIs whose performance is low and database is slow.

The best part of Sentry is that it identifies errors before they occur, offering the least downtime. It thereby enhances the performance monitoring of applications through stack traces. The entire trace can be viewed to spot out the exact APIs that aren't performing well. There is distrusted tracing that can help monitor the complicated needs of full-stack applications.

Instant notifications can be generated for any type of issue and seamless integration can be ensured with emails, GitHub, etc. for speedy notifications. It is easy to install and has an official Docker image for effective review and maintenance. There are Breadcrumbs that can showcase an entire trail leading to the bugs. It offers to monitor data in real-time and has a query builder – Discover, through which raw event information can be queried.

## Redis:

Redis is a known, open-source, in-memory data structure store that offers different data structures like lists, strings, hashes, sets, bitmaps, streams, geospatial indexes, etc. It is best utilized as a cache, memory broker, and cache. It has optional durability and inbuilt replication potential. It offers a great deal of availability through Redis Sentinel and Redis Cluster.

Redis offers the enterprise version in the cloud, using NoSQL and data caching. It is the world's fastest in-memory database. Since it offers almost 100% uptime, the best security, and an excellent support system, enterprise owners and big shots are highly impressed and look forward to working with this technology. There is easy management and high-end scalability that make it popular.

The enterprise version has multiple deployment opportunities. Redis gels well with relational databases, geo-distribution, complicated data types, read and write in different geo regions and hence it is popular for DevOps in the cloud. There are

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Its simplistic yet flexible architecture is its key advantage that depends on streaming data flows. It is transactional and can have an effective backup by Kafka. There is proper Hadoop integration by moving the data to Apache Hadoop's HDFS.

Flume has robustness and fault tolerance with proper ways to ensure reliability. There are well-designed failover and recovery mechanisms that can easily manage the loss of data. It makes the most use of a simplistic and extensible data model that permits the usage of an online analytical application.

Flume has always been well known for its innovative features. It can be best utilized when data must be collected from a variety of data sources and stored on the Hadoop system. It plays an important role in situations where high-velocity and high-volume data must be handled and diverted to a Hadoop system.

## Fluentd:

Fluentd is an open-source data collector that is written in the Ruby programming language. It is best used to build a unified logging layer and facilitates unifying data collection/consumption for proper data understanding. It logs everything in JSON and offers logs that are structured and unstructured. In case the network is lost, it stores the log to FS buffer and hence data is saved.

It possesses instream processing and can carry different kinds of instream data processing tasks. It has a big plug-in ecosystem that has created a huge developer fanbase with over 500+ plug-ins available. Fluentd is simple to use, robust in its output and hence reliable data delivery is easily possible.



Inputs and outputs have inbuilt support to buffer, load balance, timeout and retry instances. It has a unified logging layer in between the data sources. There are over 5000+ companies that rely on Fluentd and approximately collect logs from over 50000+ servers. It scraps logs from sources and sends them across to services like object storage, Elasticsearch, etc. it is flexible and integrable with hundreds of analytical services and log storage.

## Akka:

Akka is a powerful, concurrent toolkit that helps in the easy and fast creation of concurrent and distributed applications. It has a great concurrency model, actor library, resilience, scalability, and message-driven structure for Java and Scala. It is high-performance in nature and resilient by design. It possesses distributed systems that are up all the time and barely fail.

It has asynchronous stream processing that offers a competitive platform for microservices and seamless integration with other solutions. It has the capacity of sending over 50 million messages per second from a single machine. Powered by Lightbend, it has an array of skilled developers who are skilled to create cloud-native apps and globally streaming data pipelines.

There are products like Akka Serverless and Akka Platform by Lightbend that can support business-driven applications. Akka is more of a set of libraries to design resilient systems spanning across networks. It helps developers in saving time over writing low-level code and instead, makes them focus on aligning to business objectives.

## Workato:

Workato is an intelligent, popular automation platform that is utilized by business people and IT staff. It has been a leader in Gartner's quotient and services as an integration platform that can be easily availed by all users, alike, be it any size or any segment. It helps teams to process enterprise-grade integration and process automation with the help of AI and ML technologies.

It can create intelligent and interactive chatbots to streamline business operations. It offers seamless integration with cloud-based apps, on-premises apps, ERP, human resources administration, etc. It comprises good version management mechanisms, in which users can go to their older versions, with upgrade options.

Workato makes it easy to build complicated workflows across the organization. It looks at serverless operations, maximized

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them. It helps SaaS businesses to develop and preserve users. It is a web-based tool that has a simple, visually appealing workflow automation system connecting many sources.

Users can spend more time improving their products rather than customizing integrations, which is rather done well by Appmixer. It offers SaaS users an embedded iPaaS with a visual workflow, making them retain users at their best. It lets you solve client issues and satisfy their demands. It has a drag and drop UI with SDK that can offer seamless integration of data sources and the creation of workflows barring code writing.

It saves on a lot of time and energy by availing inbuilt connectors for most online apps and yet offers the flexibility to add our own connectors to connect with APIs. Since it is an on-premises software, there is control over client information. SaaS users can embed their competencies without any extra effort or maintenance.

## Other Known Kafka Competitors

- Apache Flink
- Google Cloud Pub/Sub
- KubeMQ
- Confluent
- Tray.io
- StreamSets
- HVR
- Apache Airflow
- NServiceBus

## Final Thoughts

Like others, Apache Kafka has its own set of competitors and alternatives. It is all need-based! Based on client requirements, the choice of technology may change. Kafka has always been good but as the technology segment advances, there are now choices available that can overshadow the few cons that Kafka has. You can try them to test them!



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