



Air France-KLM Group Improves Efficiency and Elevates Passenger Experience with HiveMQ

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Air France-KLM Group Improves Efficiency and Elevates Passenger Experience with **HiveMQ**



Harnessing the Power of Data to Modernize Air Travel and Operations

Air France-KLM Group is a leader in international air transport from Europe to over 300 destinations, and a pioneer of sustainable aviation working to achieve net zero CO₂ emissions by 2050. Over the past several years, Air France-KLM worked toward building a comprehensive IoT strategy that can facilitate real-time decision-making and increase operational efficiency, an elevated customer experience, and sustainable practices to reduce their environmental footprint.

The foundation for the Air-France-KLM strategy is harnessing and accessing the power of the Group's huge volumes of data for improved business decisions. They sought a reliable, scalable, and secure IoT messaging solution to help them modernize legacy services while managing vast amounts of IoT data for several expanding use cases.

Modernizing Legacy Services Without Disrupting Services

Air France-KLM was using a messaging service that lacked the scalability and flexibility required for growth and to enable advanced data analytics for improved decision making. The HiveMQ MQTT Platform offers the enterprise-grade features needed to support the 500+ aircraft maintained and 77 million passengers carried each year. Air France-KLM will continue to support the existing connections and message delivery for their legacy middleware messaging platform while moving to the scalable new HiveMQ MQTT platform in order to achieve uninterrupted services.

The Air France-KLM IT team worked hard to find a solution that would align seamlessly to retain their current IEB backend service. The IEB platform is responsible for sending silent notifications to a disconnected client when a message is pending in order to keep information flowing. The service is a crucial component of the orchestration of device reconnection, continuous connection, and message deliveries. HiveMQ fit the bill.

At a glance

What do they do?

- Leader in international air transport
- Pioneer of sustainable aviation

Challenges

- Legacy messaging middleware that lacked the ability to scale
- Vast amounts of data to collect and curate for analysis

Solution

- Adopted HiveMQ for seamless modernization without affecting customer experience
- New IoT messaging infrastructure collects data for various use cases and can grow with them over time

Results

- Uninterrupted services as they transition from old to new messaging platform
- New data infrastructure will support 500+ aircraft and 77 million passengers each year

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GROUP

"Keeping operations running smoothly and minimizing disruption to our existing backend service while modernizing is critical for us," said the Head of Middleware, Air France-KLM. "We need a foundation in place that allows us to collect data from many different IoT devices and sensors for various use cases, and can grow with us over time, and we need to do it while we continue to offer our travelers the best experience. We chose HiveMQ as the trusted platform to handle the transition."

Air France-KLM initiated the deployment of the HiveMQ platform at its IT center of excellence as part of its strategy to address the decommissioning of legacy technology in 2024. This move positions Air France-KLM to effectively leverage the HiveMQ MQTT platform as the foundation for many data-driven use cases, marking a significant step towards modernization and operational excellence.

Working with HiveMQ, the leading MQTT Platform provider, we've been able to tailor a solution that will allow us to achieve our goals.

Head of Middleware, Air France-KLM

Advanced Aviation Use Cases Powered by IoT Data

Air France-KLM can enable many use cases on the back of HiveMQ, including:

- **Enhanced safety** by monitoring various critical components of the aircraft, such as engines, fuel systems, and navigation equipment. Near real-time data can help detect issues before they become critical, ensuring safer flights.
- **Predictive maintenance** to continuously monitor the health and performance of aircraft and perform maintenance before problems arise. Predictive maintenance leads to cost savings and improved efficiency.
- **Improved passenger experience** by providing real-time

information on flight status, delays, baggage tracking, and personalized experiences for passengers.

- **Improved sustainability and fuel efficiency** through optimized flight routes, fuel consumption monitoring, and recommended fuel-saving practices, helping to reduce the company's carbon footprint and operational costs.
- **Better inventory management** by tracking the availability of spare parts, catering supplies, and other resources, ensuring the airlines have the necessary items on hand when needed.

The Head of Middleware explained, "Working with HiveMQ, the leading MQTT Platform provider, we've been able to tailor a solution that will allow us to achieve our goals. We're looking forward to optimizing our IoT deployment for cost-savings, and ultimately to reach our efficiency and sustainability goals while offering customers a superior and connected travel experience."

Air France-KLM and HiveMQ worked together to tailor a custom enterprise extension to the HiveMQ platform to allow Air France-KLM to continue its IEB backend service for managing disconnected devices with persistent connections and pending message dispatches without disruption.

"The time has come to upgrade our messaging service and the importance of that data backbone can't be overstated. Not only will we be able to continue offering the services our customers expect but we plan to expand on them with state-of-the-art technologies such as detailed luggage tracking and flight status information. We look forward to seeing what we can do together to modernize air travel and operations."

About Air France-KLM

A global player with a strong European base, the Air France-KLM Group's main areas of business are passenger transport, cargo transport and aeronautical maintenance.

Air France-KLM is a leading airline Group in terms of international traffic on departure from Europe. It offers its customers access to a worldwide network, covering over 300 destinations thanks to Air France, KLM Royal Dutch Airlines and Transavia, mainly from its bases at Paris-Charles de Gaulle, Paris-Orly and Amsterdam-Schiphol.