



Transforming Airline Operations with a Modern and Cost-Effective Data Platform for a Leading Airline



The platform is scalable and intelligent for automated data refresh, real-time insights, and improved integration from diverse data sources for a significant business impact.

A leading Middle Eastern low-cost carrier, the client operates an extensive network connecting over 100 destinations across Africa, Asia, Europe, and the Middle East. With a fast-growing network and increasing operational complexity, the airline needed a modern data platform to support real-time decision-making and advanced analytics.

The airline's legacy data platform was built on-premise using traditional technologies. It was designed primarily for historical reporting and lacked integration capabilities, scalability, and support for real-time or unstructured data. High infrastructure and licensing costs further limited its efficiency and adaptability..

SCALABLE, CLOUD-NATIVE, DATA PLATFORM FOR REAL-TIME ANALYTICS AND DECISION INTELLIGENCE

To address these challenges, IGT Solutions designed and implemented a scalable, cloud-native data platform tailored to the airline's operational and analytical needs. The modernized architecture featured:

- **Cloudera Impala** for enterprise-grade data warehousing and complex query execution
- **Apache Kafka** for real-time integration of Passenger Name Record (PNR) and operational data streams
- **Modern ETL frameworks** enable parallel processing and architecture uplift
- **Big Data tools** such as MapReduce, Pig, and Hive for processing complex business logic at scale
- **Python-based pipelines, web scrapers, and social media connectors** for ingesting and analyzing unstructured data
- **Power BI and SQL Server Reporting Services (SSRS)** for advanced visualization and self-service analytics
- **Apache Sqoop** for near real-time Change Data Capture (CDC) and seamless data synchronization

REAL-TIME INTELLIGENCE AND COST EFFICIENCY AT SCALE

The modernized data platform delivered a significant business impact by streamlining operations and enabling real-time intelligence. Leveraging cloud scalability and open-source technologies, the airline achieved a 60% reduction in infrastructure costs and a fourfold improvement in data processing speed.

Real-time data refresh and the integration of social media and survey inputs provided deeper customer insights, while eliminating licensing fees further enhanced overall cost efficiency.

AT A GLANCE

INDUSTRY

Airline

THE CLIENT

A leading Middle Eastern low-cost carrier operating an extensive network connecting over 100 destinations across Africa, Asia, Europe, and the Middle East.

CHALLENGE

Legacy on premise data platform with limited integration, high costs, and no support for real-time or unstructured data

SOLUTION

Built a Cloud-based data platform using Cloudera Impala, Apache Kafka, modern ETL, and Big Data tools for real-time and unstructured data integration

RESULTS

- 60% reduction in infrastructure costs
- 4x improvement in data processing
- Real-time data refresh for up-to-date insights and decision-making
- Integrated social media and survey inputs
- Zero licensing fees