

## Case study:

# Virgin Australia Business Flyers Loyalty Program Data Event Streaming



## The Opportunity

In April 2022, Virgin Australia launched a business flyers loyalty program to enhance the utilisation of Virgin Australia among business flyers and strengthen the company's connection with businesses.

The program was enabled off the back of extensive research conducted with the *business traveller* market, which showed a strong alignment to the Virgin Australia brand and product propositions with Australian SMEs.

The program necessitated the coordination of workflows across multiple systems, such as *iFly*, *Salesforce*, and *Amadeus*. Manual execution of these workflows is inefficient, prone to errors, and costly, leading to delayed feedback for Business passengers regarding their earned and redeemed rewards status.

**The objective of this project was to automate the communication flow between the relevant systems. The solution had to satisfy several constraints:**

- No direct point-to-point integration between systems.
- Asynchronous message flows.
- Ability to throttle the load on individual systems on a system-by-system basis, depending on operational requirements.

## 4impact's Approach

4impact endorsed the use of Kafka as a streaming event platform to coordinate the flow of events among identified systems. We worked with Virgin Australia to develop a high-level architecture documenting the required data types, messaging channels (Kafka topics), and event triggers.

A set of microservices to consume and transform incoming messages were developed prior to invoking the required APIs on destination systems.

The development of a logging mechanism ensured that key business events are captured in a separate topic which is consumed by a monitoring application. Meanwhile the microservices ship their logs to a centralised log management system which is related to the monitoring application.

4impact worked with Virgin Australia SMEs to affect a complete transition in support of the solution to Virgin Australia's in-house BAU support teams.

### Key Services utilised

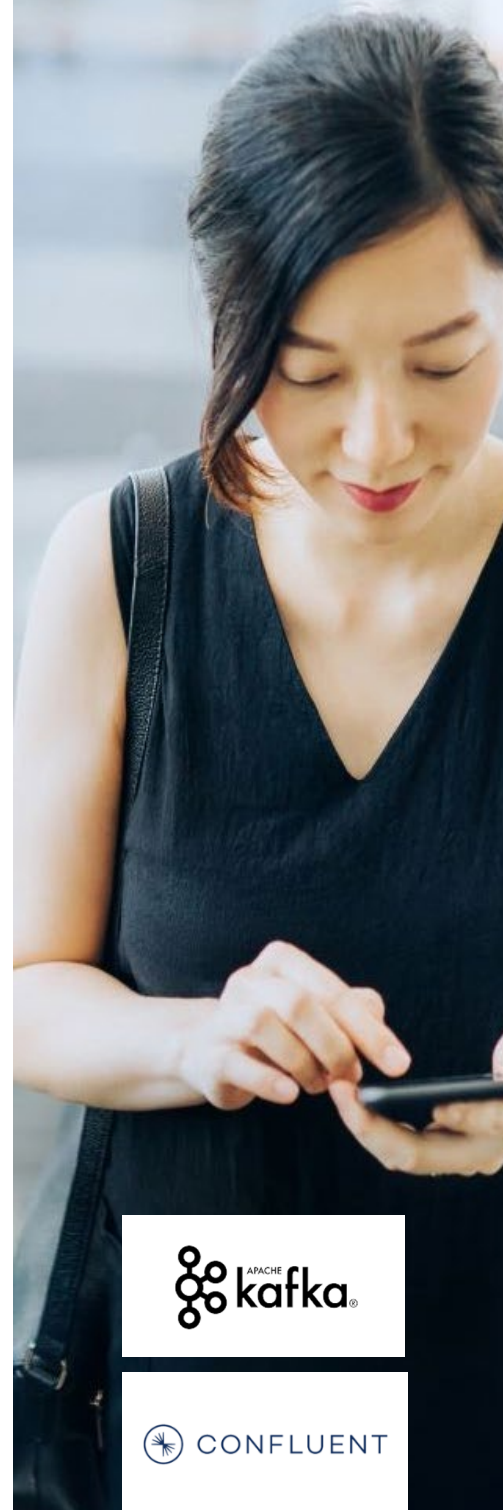
- Software Development
- DevOps
- Project Management

### Key Toolkit

- Confluent managed Kafka clusters.
- Kafka components implemented as Java applications.

### Key Technologies utilised

- Kafka event data streaming
- Confluent.io



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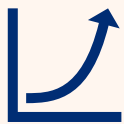


### Key Outcomes and deliverables:

These outcomes were critical to both streamline and enhance the operational objectives for Virgin Australia.

- The solution went live in Q1 2023 handling thousands of messages per day while putting no appreciable load on the endpoint systems.
- Reward earnings and redemptions are kept in sync across all systems, with no need for manual intervention.
- Wider internal initiatives are now considering how they can leverage the business data captured in the Kafka environment to build out their own business services at a fraction of the cost and time that was previously required.

### Key project statistics and success insights.



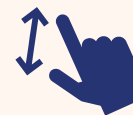
#### INCREASED CAPACITY OF MESSAGE VOLUME

1000'S MESSAGES FLOW PER DAY WITH APPRECIABLE LOAD TO END POINT SYSTEMS



#### REMOVED NEED FOR MANUAL INTERVENTION

CUSTOMER REWARD DATA IS KEPT IN SYNC ACROSS ALL SYSTEMS



#### ACCESSIBLE DATA FOR SCALABLE BUSINESS UPLIFT

WIDER BUSINESS SERVICES CAN NOW BE ENHANCED WITH LESS COST, FASTER

Case Study: Virgin Australia Business Flyers (SME) Loyalty program

#### The 4impact Advantage.

4impact is a consulting and technology services business with a primary focus on the delivery and implementation of complex technology projects. We value relationships - with our consultants, with our clients, and with our suppliers and partners.

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