

Case study:

State Government Department Kafka streaming Cadastral Data PoC



The Opportunity

A state government department needed to speed up their five-hour geospatial data processing, which supports planning for government and private sectors like real estate and infrastructure. Occasional failures cause multi-day delays, financial losses, and flawed planning outcomes.

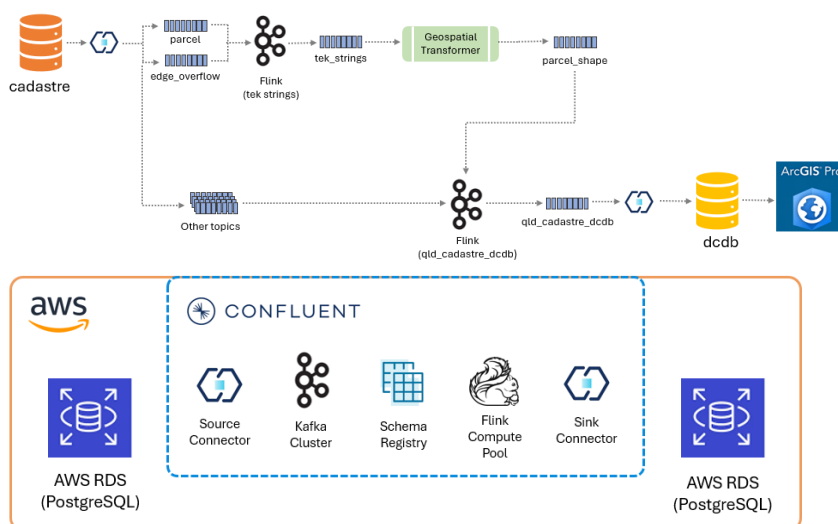
The Department engaged 4impact to deliver a proof of concept to accelerate processing and reduce costs.

4impact's Approach

Building on 4impact's success with Virgin Australia, Kafka data streaming was selected for the solution.

A cadastral data proof of concept (PoC) demonstrated a near real-time data exchange, eliminating lengthy outdated data gaps.

This ensured live, current data availability 24/7, removing the reliance on nightly syncs.



Key Services utilised

- Software Development
- DevOps
- Project Management
- Business Analysis

Key Technologies utilised

- Kafka event data streaming
- Spring Framework
- Confluent.io
- Relational database <=> Event streaming bridging

Key Toolkit

- Confluent Cloud-hosted Kafka connectors
- Java microservices
- Deployed into AWS ECS Fargate
- Confluent Cloud topics
- Terraform for DevOps



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Key Outcomes and deliverables:

The PoC successfully demonstrated a dramatic reduction in time, compute resources, and cost required to migrate data, and have it accessible for use within minutes, compared to current state overnight syncs.

Deploying this proof of concept as a solution would mean that at scale (now and future), not only would the nightly syncs be redundant, but also the ready-to-use data would be available across all relevant systems in near real-time, all the time.

- Potential to dramatically reduce time, compute resources, and cost required to migrate data.
- Data migrates in near real-time opposed to overnight.
- Clear roadmap identified to deploy the Proof of Concept at scale for real-world application.

Key project statistics and success insights.



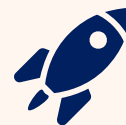
REDUCED

SIGNIFICANT COST
REDUCTIONS COMPARED
TO CURRENT STATE



SCALABLE

EASILY SCALES AS
DATASETS INCREASE



ACCELERATED

SPEED TO DATA
CHANGED FROM HRS
TO MINS



RELIABLE

ROBUST AND RESILIENT
ARCHITECTURE



FUTURE PROOFED

NOT RELIANT ON LEGACY
CODE BASE



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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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