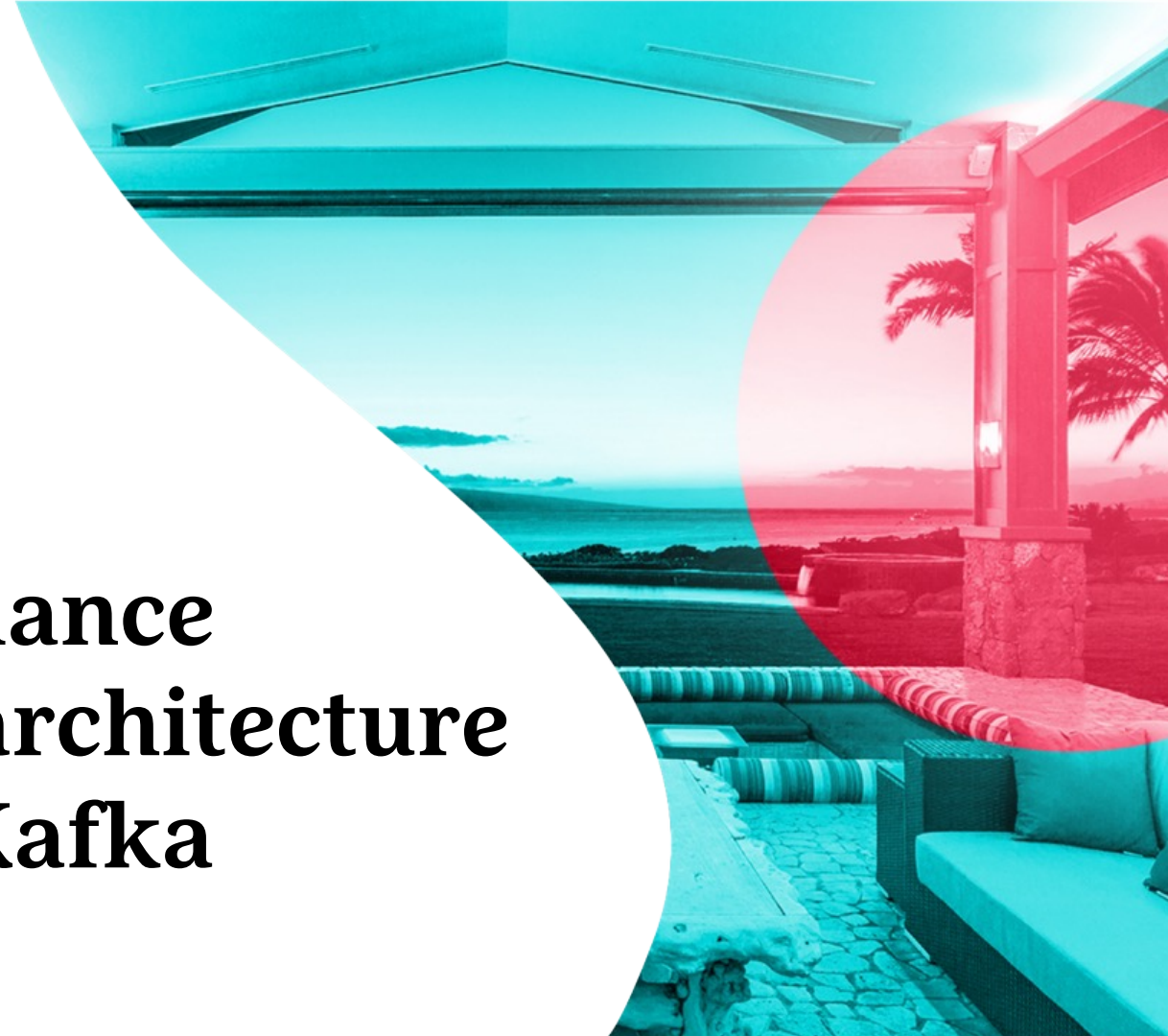
THE HOTELS NETWORK



High performance event-based architecture with Go and Kafka

This is THN: Growth for the direct channel of hotels

THE HOTELS NETWORK

An ecosystem of
growth tools for hotels

We are a distributed platform for the hotel industry

15,000 hotels

Several million daily visits

Over 8PB of data processed monthly

Intel (my team)

- We enrich data (real time or not) a lot. In order to provide value, we want the richest data possible. This is not always possible with the data we capture from the hotel's website.

- What type of data do we enrich? Room names & description, prices, availability, available discounts…

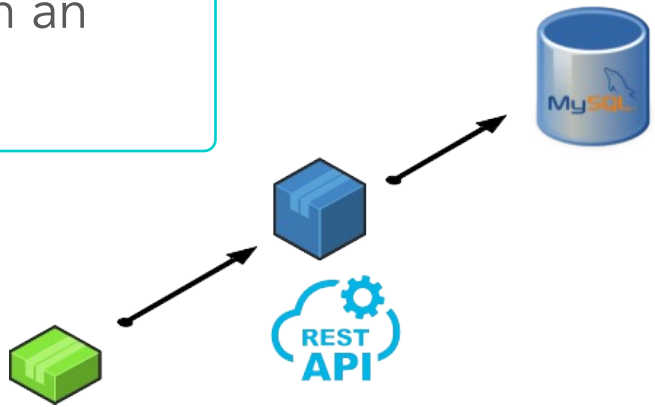
- We are building a highly concurrent pipeline to grab, process and normalize data, on the top of an event-based set of microservices written in Go and communicating via Redpanda.

Our numbers

- >30 sources to feed the pipeline with data
- ~4.3 Million RPD → 50 RPS
- ~4s to process successful requests
- 100 MB RAM per pod (on average)
- 40 pods (valley) - 80 pods (peak)

One new problem

- Having currency quotes correctly updated
- Now we grab rates from an internal API



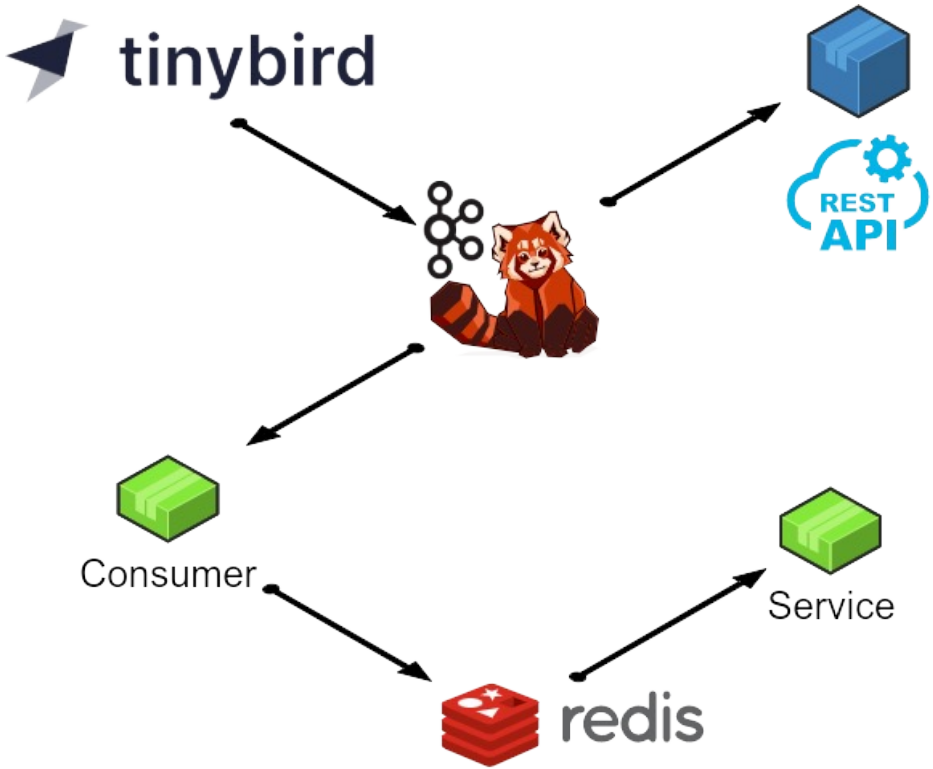
Issues

- **Scalability:** more load in my service implies more load in the API provider
- **Performance:** it is difficult to handle peak loads
- **Single point of failure:** my service must handle the API outages
- **Dependency:** if the API is slow my service will suffer
- **Coupling:** REST API JSON, cannot be the best option in all the use cases
- **More coupling:** a buggy client can compromise the entire system

Standard Solutions @ THN – *events & projections*

1. The producer exposes their data reporting that happened something as an event stream.
2. The consumer attaches to the producer event stream and reads the stream.
3. The consumer builds a projection only with the data of their interest using their favorite technologies.
4. The application queries the projection to get the data.

Currency Solution



Challenges

How to choose the proper retention

Out of Sync issues

Handle contract changes

Kafka is now single point of failure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Thank you!

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