Petabyte-Scale Log Storage for Microservices

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Problem

Ingest PBs/day of operational logs.

Fast queries

Reasonable costs

History

Elastic Search

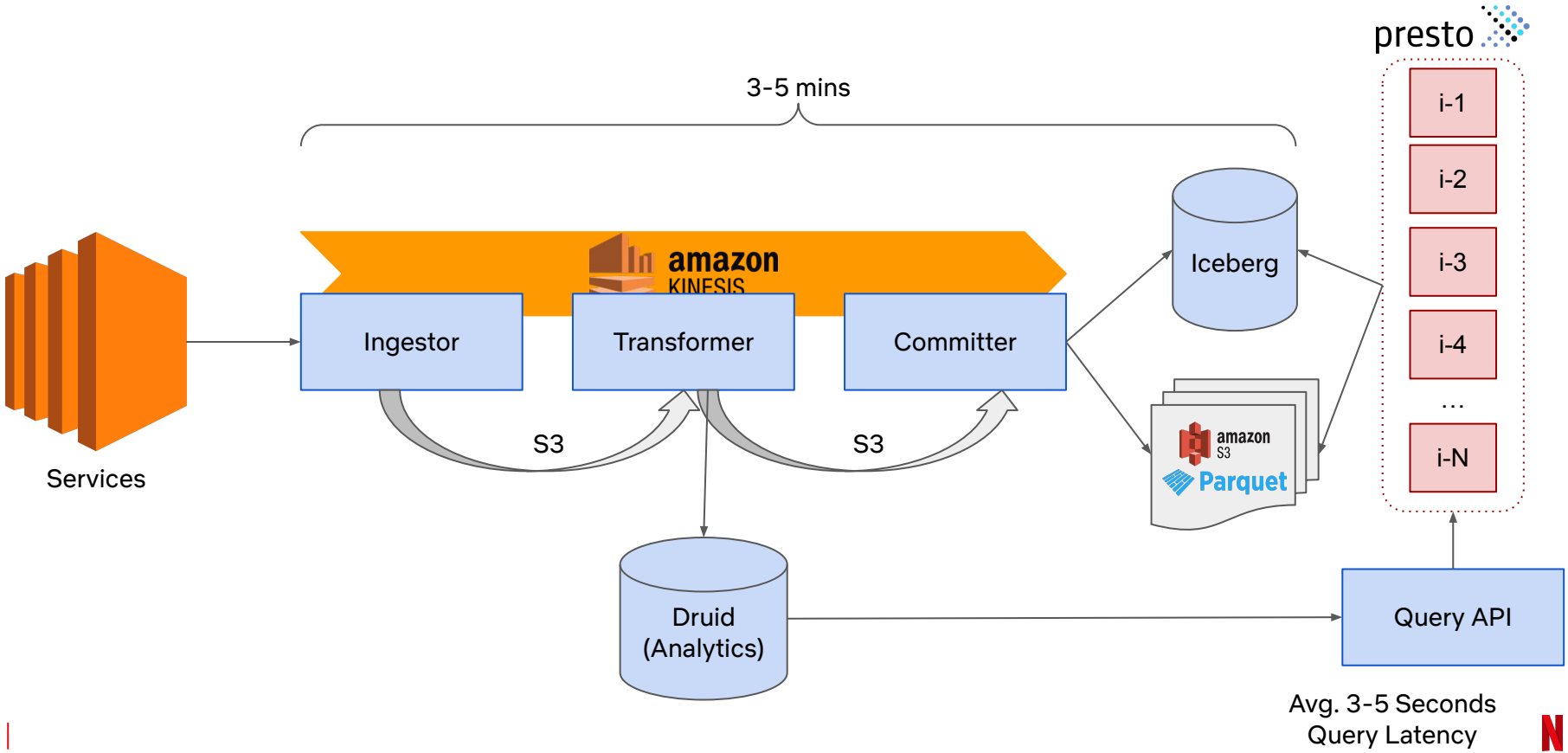
Fast but very expensive.

History

Trino + Iceberg

Cheap but slow queries + stale data

Insight Logs V1: Using Presto + Iceberg

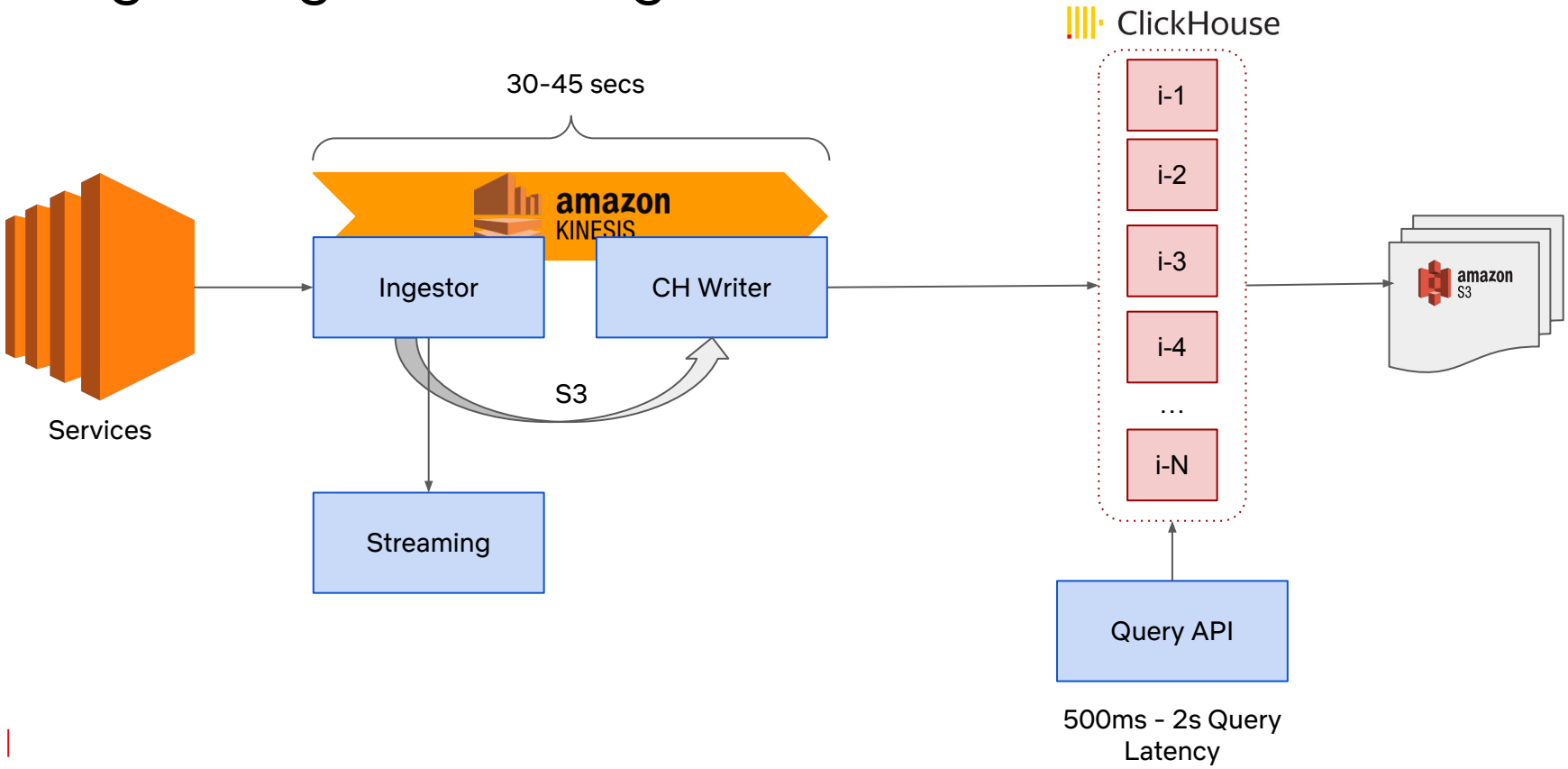


Maybe a different DB

ClickHouse

Fast queries, fresh data, not trivial to operate

Insight Logs V2: Using ClickHouse

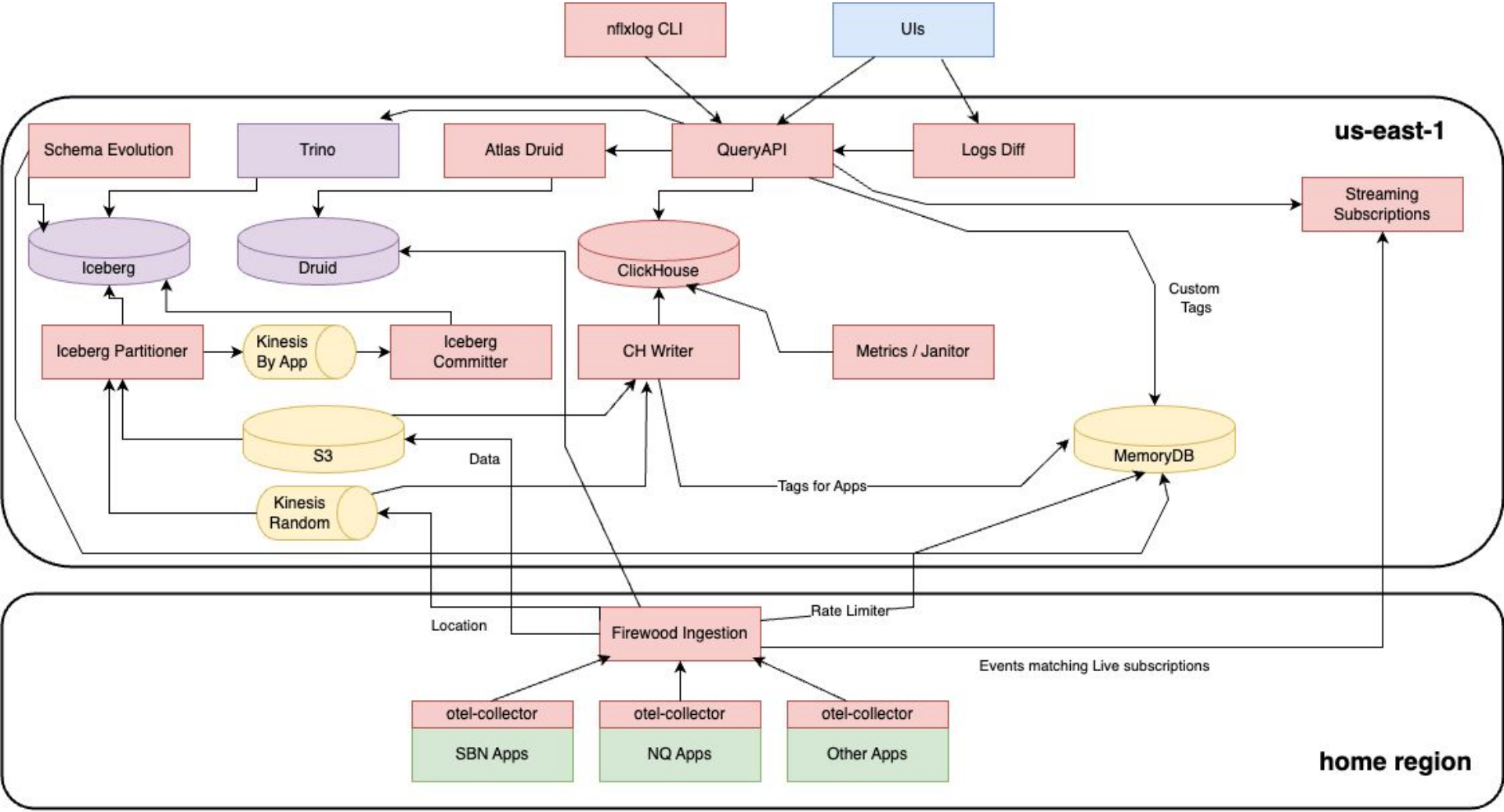


ClickHouse Challenges

- Stateful nodes
- Keeper
- Dealing with expensive queries

ClickHouse as Hot Tier

- Use CH for recent data
- Use Iceberg for the rest


nflxlog CLI
UIs
us-east-1
Schema Evolution
Trino
Atlas Druid
QueryAPI
Logs Diff
Streaming Subscriptions
Iceberg
Druid
ClickHouse
Custom Tags
Iceberg Partitioner
Kinesis By App
Iceberg Committer
CH Writer
Metrics / Janitor
S3
Data
MemoryDB
Tags for Apps
Kinesis Random
Location
Firewood Ingestion
Rate Limiter
Events matching Live subscriptions
otel-collector
SBN Apps
otel-collector
NQ Apps
otel-collector
Other Apps
home region

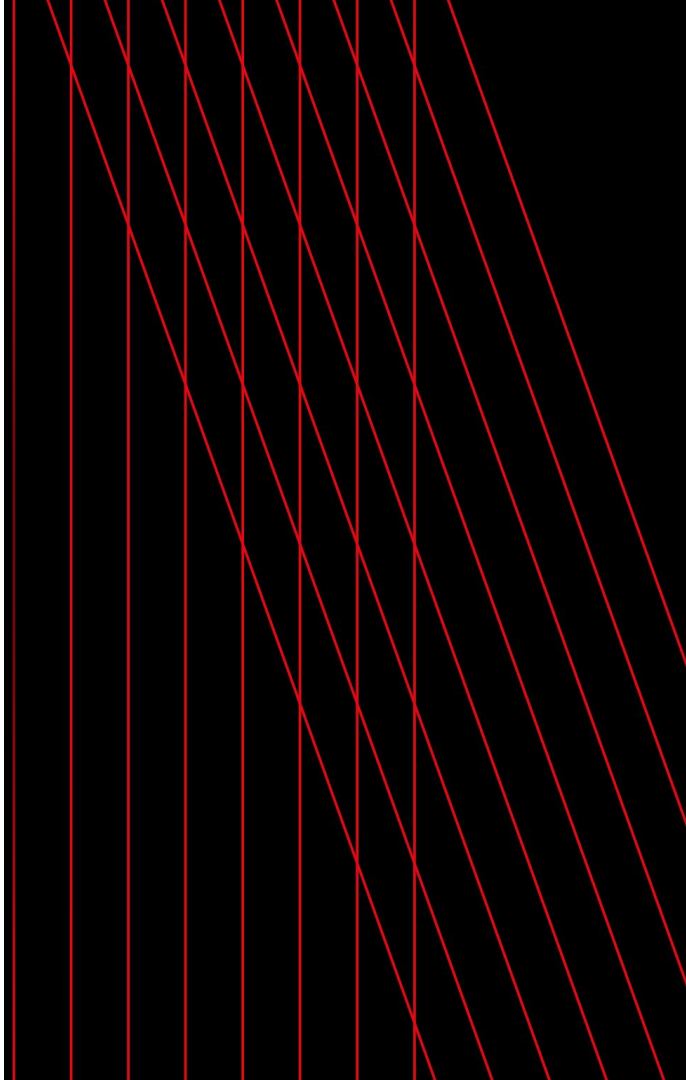
Live Demo

Alpha UI

Stable UI

Thank You.

Daniel Muino



One of multiple CH deployments