
AWS
re:Invent
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ANT340

How Sony Orchard accelerated innovation with Amazon MSK

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Sony's The Orchard

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Agenda



Value and business opportunities with real-time data



Amazon MSK overview and benefits



Sony Orchard: Innovations fueled by Amazon MSK



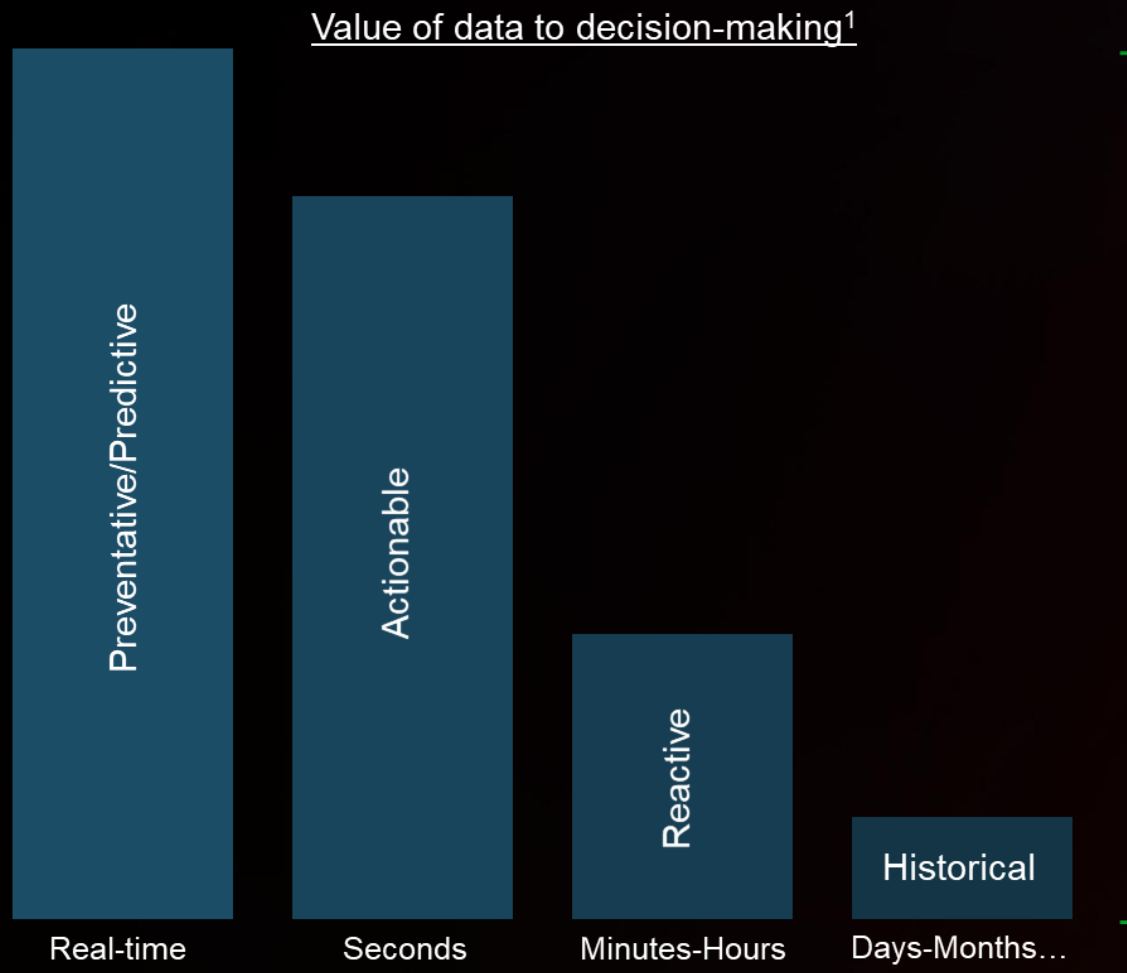
Learnings and conclusions

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The value of data diminishes over time

Data have a short shelf life of actionability[1]. AWS lets you act on that data as fast as the market dictates.



58%

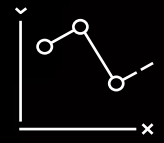
Percentage of those surveyed who say their organization saw **significant increases in customer retention and loyalty** as a result of using real-time customer analytics[2]

75%

Percentage of enterprise organizations surveyed that believe **untimely data inhibited business opportunities**[3]

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Data streaming becomes mainstream



Real-time web and log analytics



Transaction and event sourcing



Metrics and log aggregation



Messaging



Decoupled Microservices



Streaming ETL

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Apache Kafka



An open-source, distributed event streaming platform

Open source event streaming platform

Provides high throughput, low latency for real-time applications

Durable, distributed and fault-tolerant by design

Rich ecosystem of open source tools

More than 80% of all Fortune 100 companies trust, and use Kafka

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Organizational challenges



Business Agility

Time-to-Value
Scalability & Availability



Data Accessibility

Real-time Insights & Actions
Technical Innovation

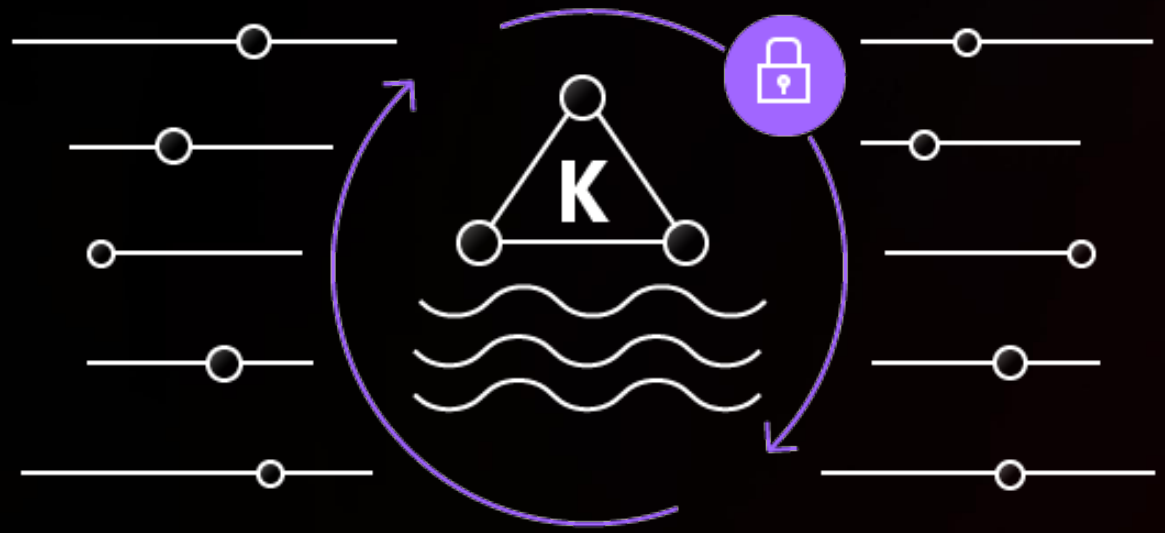


Cost Optimizations

Developer Productivity
Operational Efficiency

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Amazon Managed Streaming for Apache Kafka



A fully managed service for

Apache Kafka

and

Kafka Connect

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Amazon MSK



Fully compatible with open source Kafka, connectors and tooling

Maximize Apache Kafka performance (high throughput, low latency) at any scale. Monitoring via Amazon CloudWatch or Open Monitoring for Prometheus

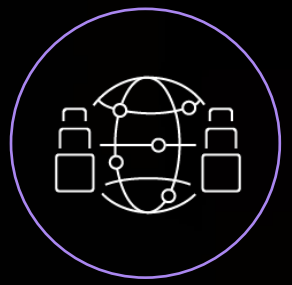
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Maximize Apache Kafka performance (high throughput, low latency) at any scale. Monitoring via Amazon CloudWatch or Open Monitoring for Prometheus



Highly available, scalable and secure

Multi-AZ replication. Horizonal and Vertical Scaling. Multiple levels of security. Encryption at rest and in transit. VPC isolation and IAM, Secrets Manager, TLS based authentication

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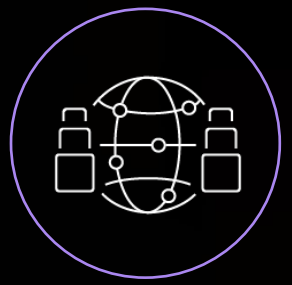
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Deeply integrated with AWS services

AWS IoT as a data source, AWS Lambda as a data consumer, Schema management with AWS Glue Schema Registry, Stream processing with Amazon Kinesis Data Analytics

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Tiered Storage

NEW!



Virtually unlimited and cost-effective storage tier

Save with low-cost storage tier

Scale to virtually unlimited storage

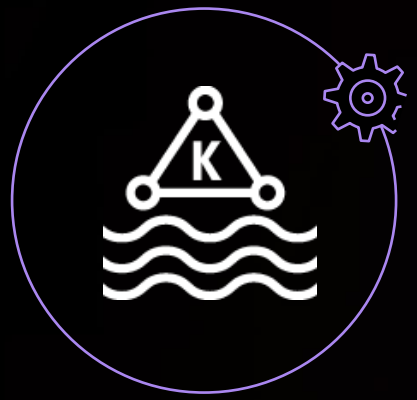
Retain data in topics for a longer duration

Increase topics' storage without adding additional brokers

Reprocess data in the exact same order in which it was produced

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Amazon MSK Offerings



MSK Provisioned

Provisioned cluster capacity

Stable and predictable workloads

Custom cluster configurations



MSK Serverless

On-demand streaming capacity

Throughput based pricing

Auto partition management



MSK Connect

Managed Kafka Connect

Fully Compatible

Automatic scaling

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Customers running Amazon MSK at scale

Adobe

Ingesting millions of events/s for interaction analytics

RIOT GAMES

Ingesting 20 TB/day of in-game events for game analytics

coinbase

Ingesting billions of application events/day

new relic.

Ingesting 40 GB/s of telemetry

Goldman Sachs

Leveraging as a strategic backbone to exchange messages between processes

COMPASS

Ingesting from hundreds of real estate data sources nationwide

ZipRecruiter®

Ingesting 6 billion events/day for event logging pipeline

VONAGE

Leveraging for real-time communication between multiple micro-services

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How Amazon MSK fuels innovation at Sony Orchard

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“You have to have the leadership will to invent, and reinvent.”

Andy Jassy

CEO, Amazon

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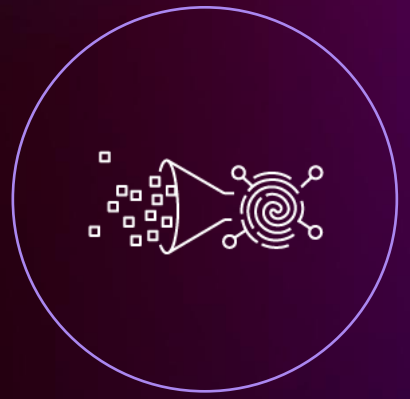
Innovation is challenging when..



Distributed cross-functional teams



Multi-purpose specific datastores

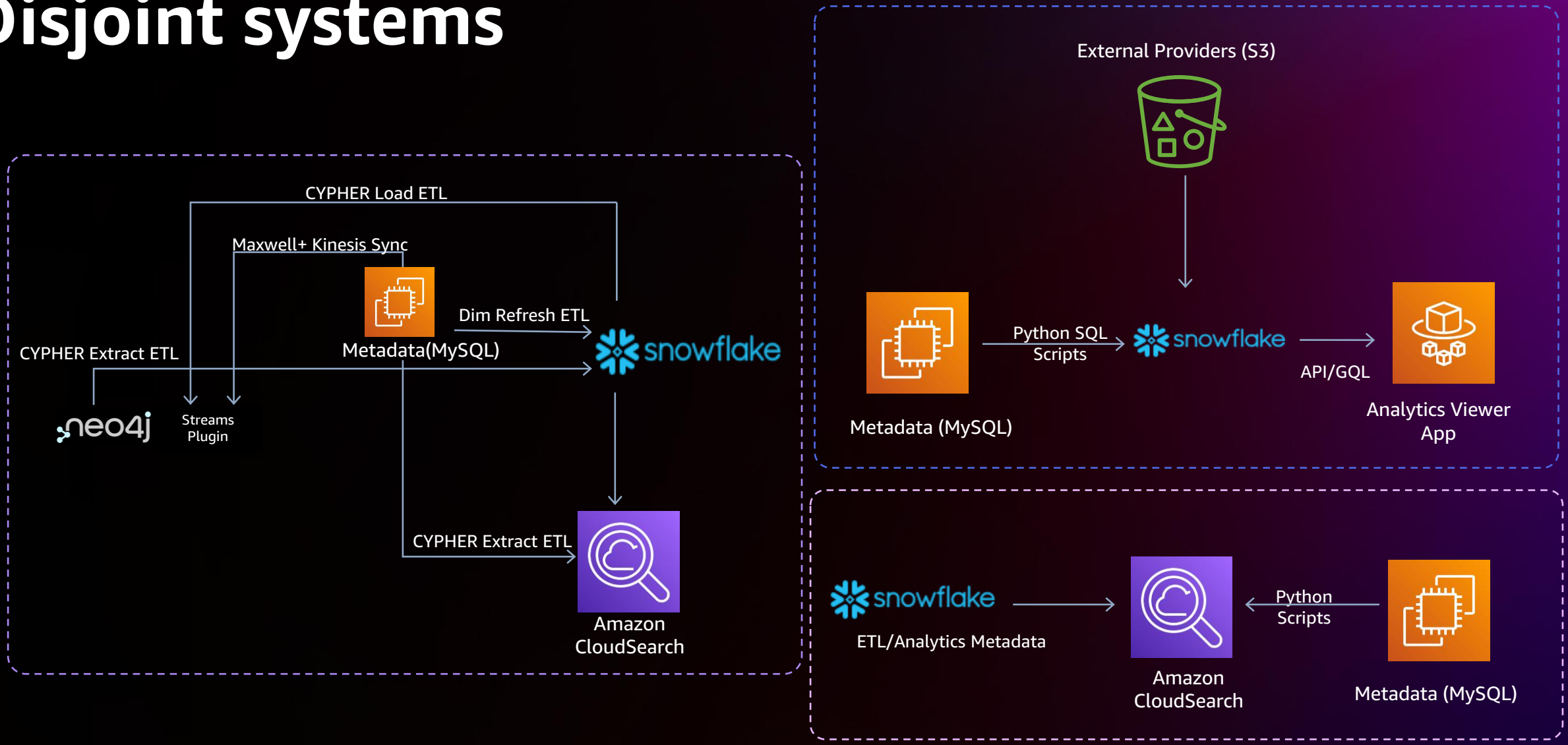


Rapid data movement and dependencies

At Scale

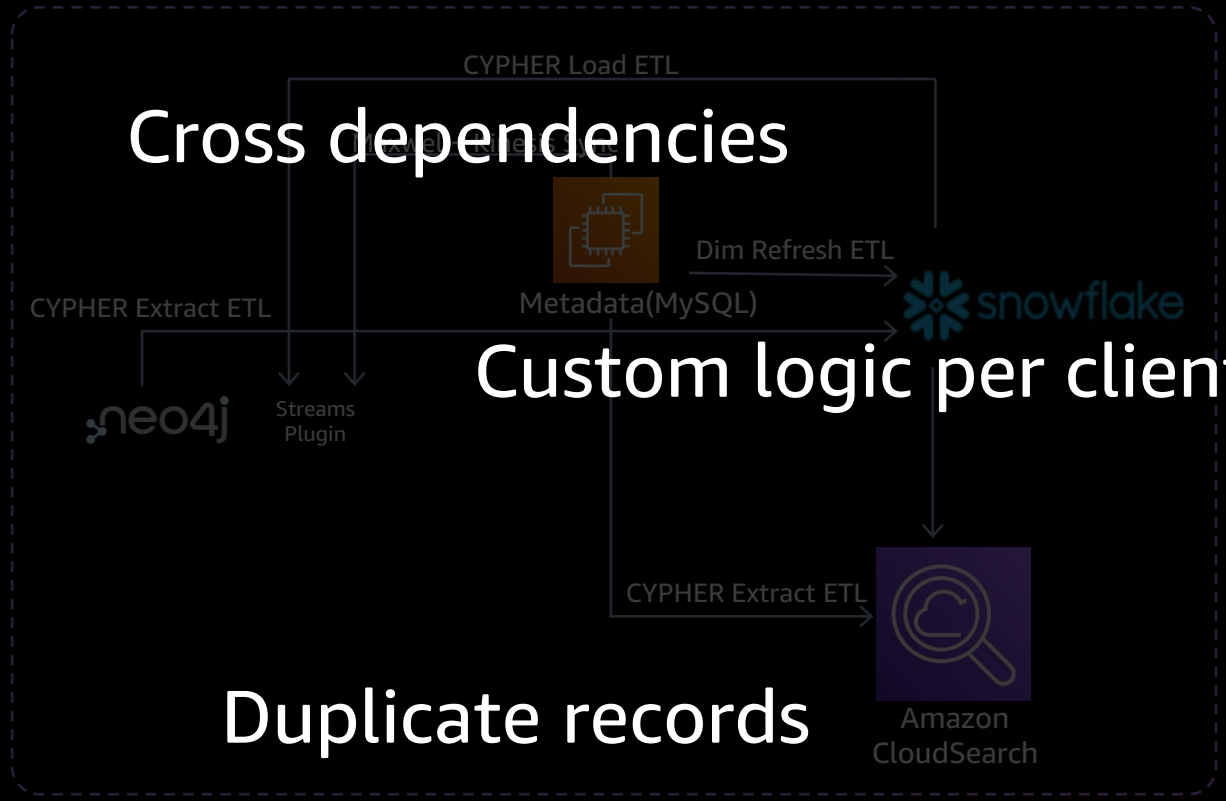
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Disjoint systems



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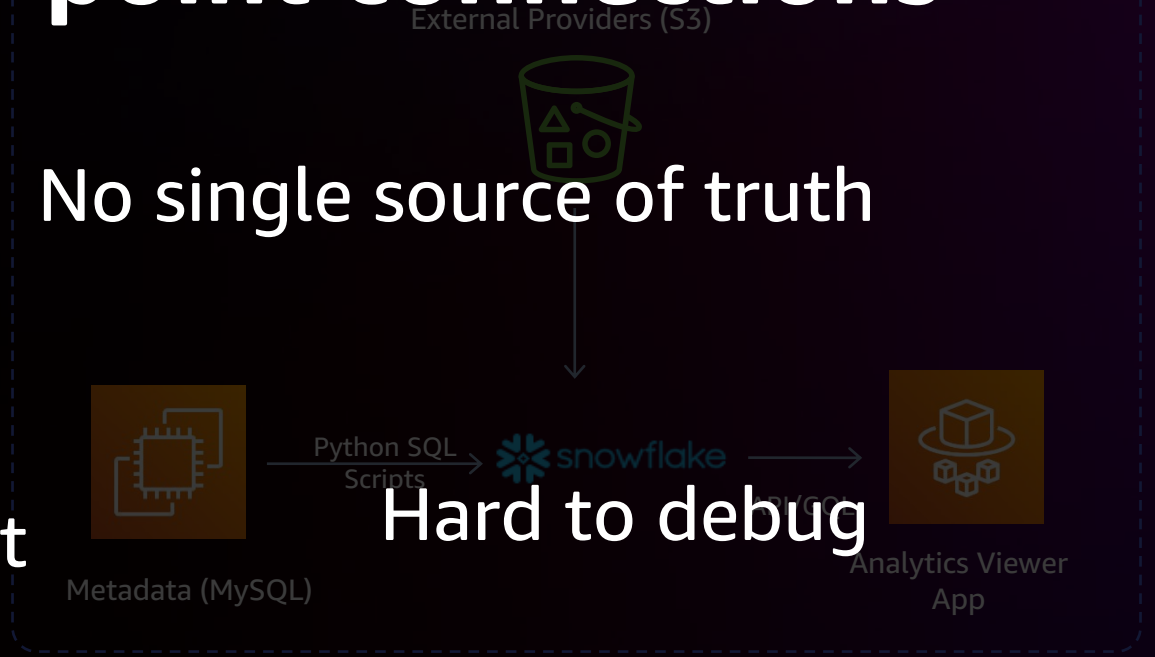
Complex web of point-to-point connections



Cross dependencies

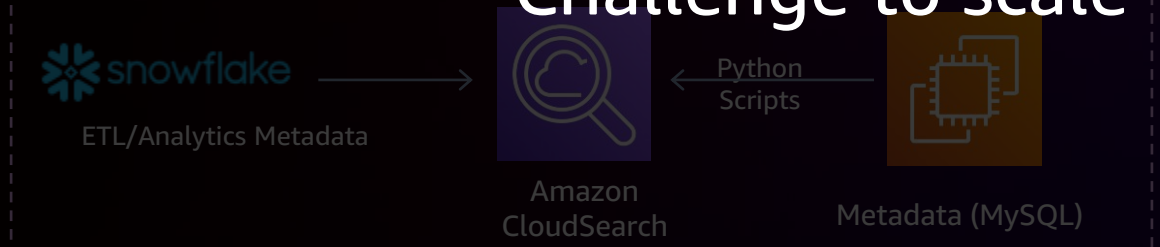
Custom logic per client

Duplicate records



No single source of truth

Hard to debug

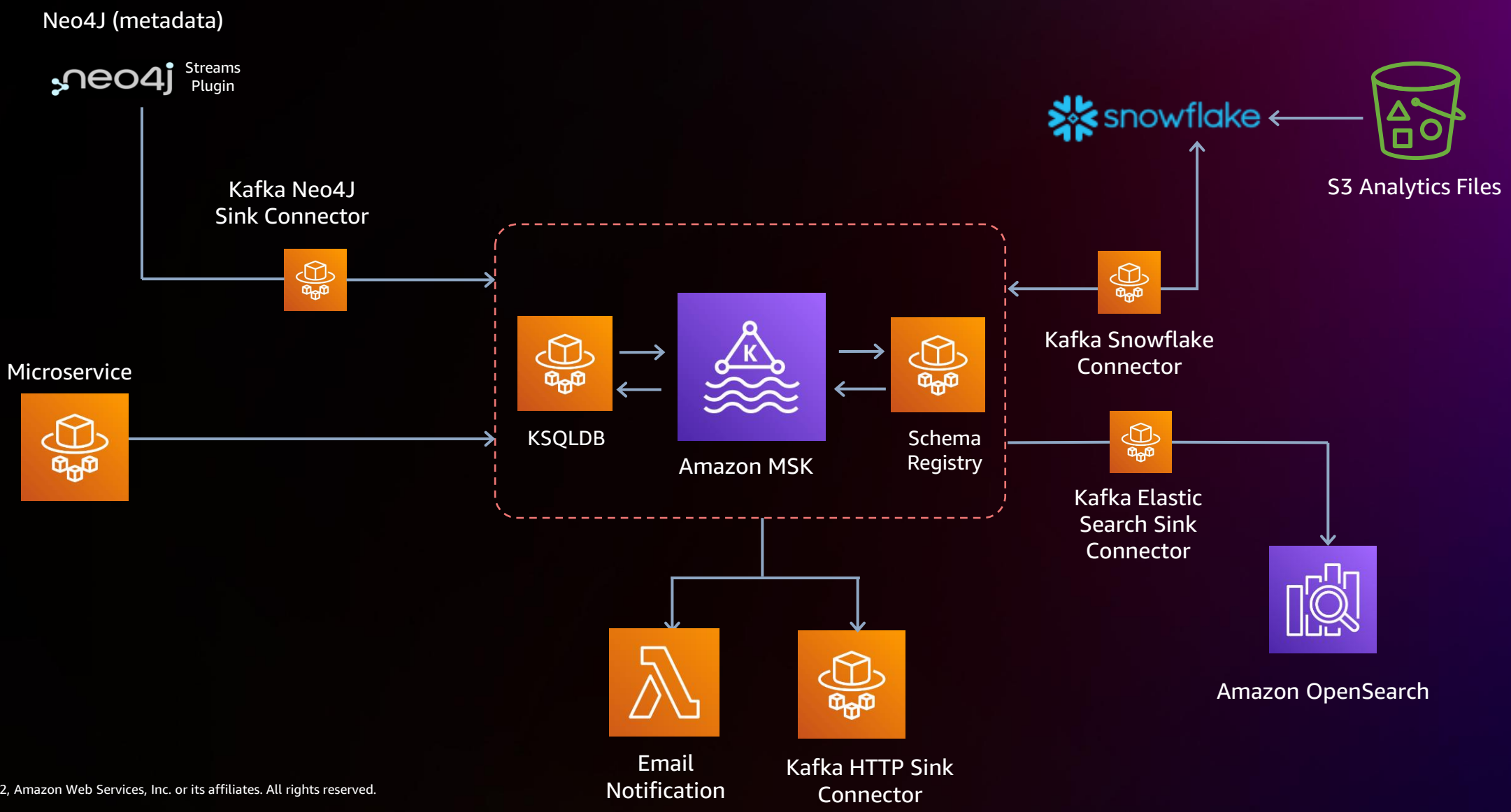


Challenge to scale

Slow pace of innovation

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The Kafka Data Highway



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Our objectives



Power a Better Search Experience

Search
fast and smart



Know and Act in Real-time

Enable event driven,
microservices architecture



Increase Operational Efficiency

Automate
user workflows

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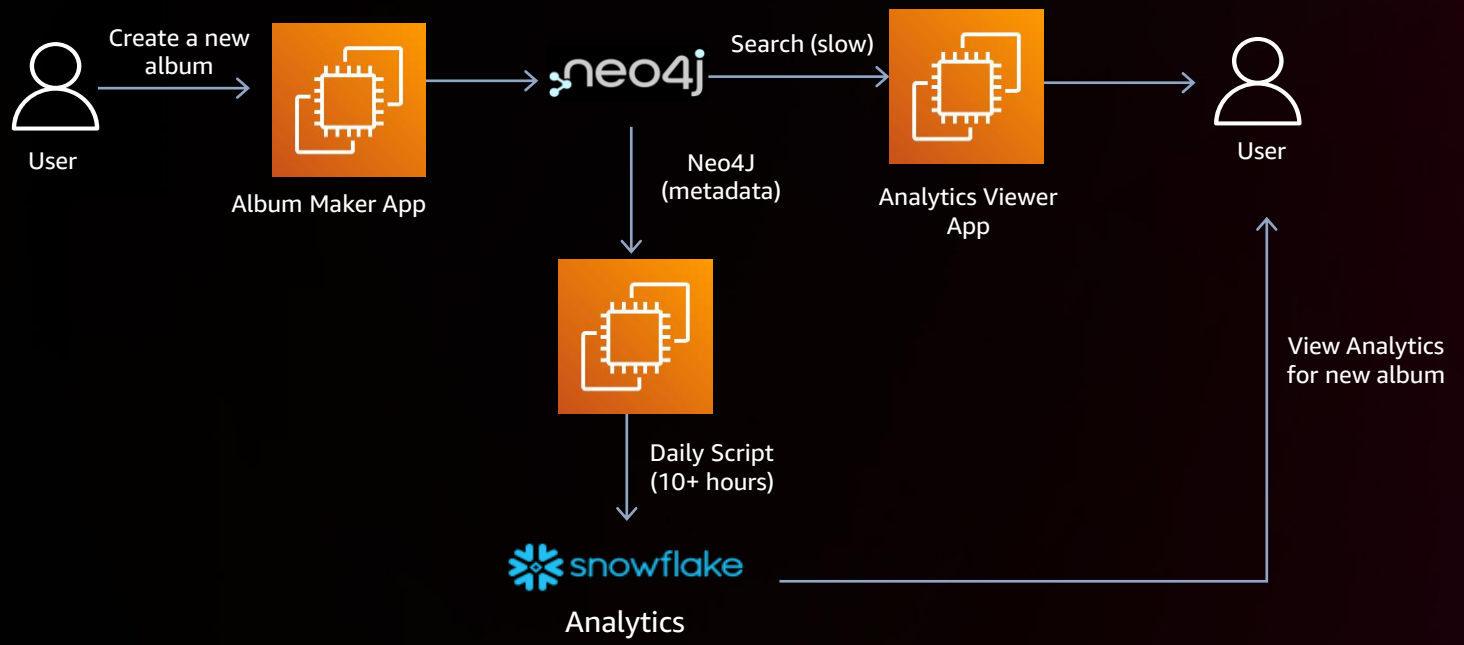
Increase Operational Efficiency

Automate
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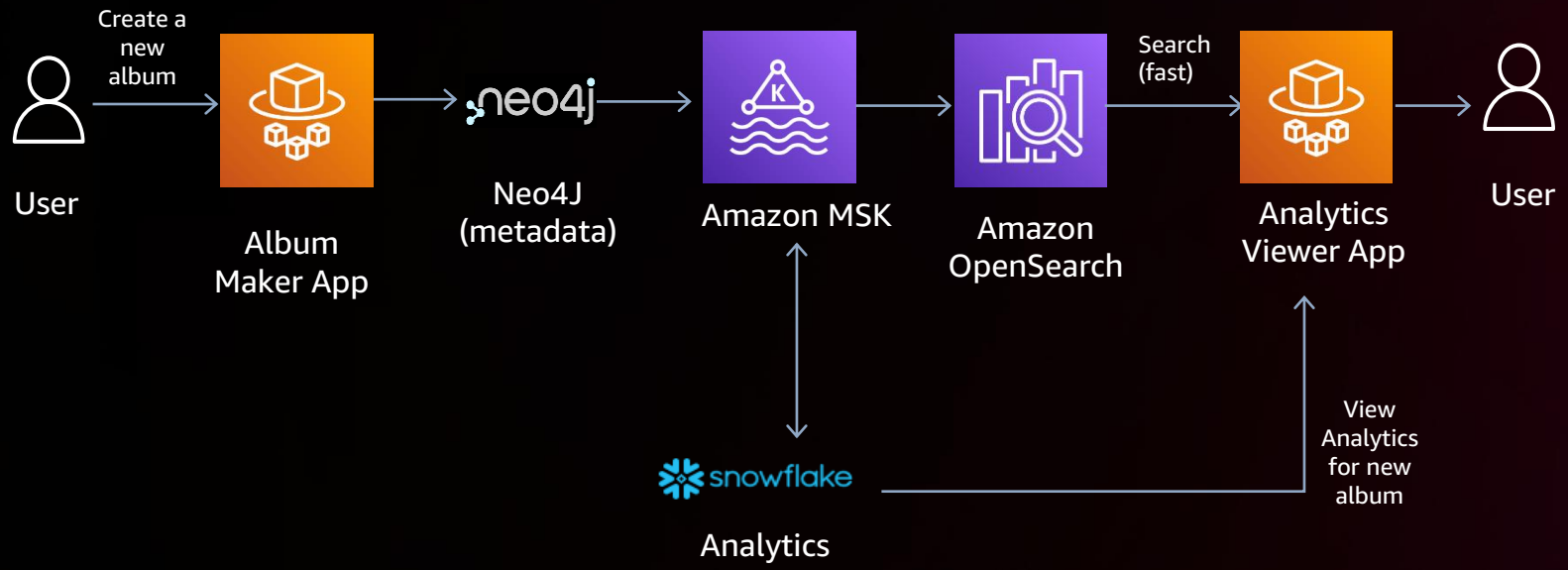
Traditional: Search within graph database



- Slow queries
- Inefficient resource utilization
- Impact stability of other applications
- Basic search capabilities
- Slow search results

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Powerful search with MSK and OpenSearch



Instant synchronization to all consumers

Ability to join data streams on the fly

Smarter results for clients

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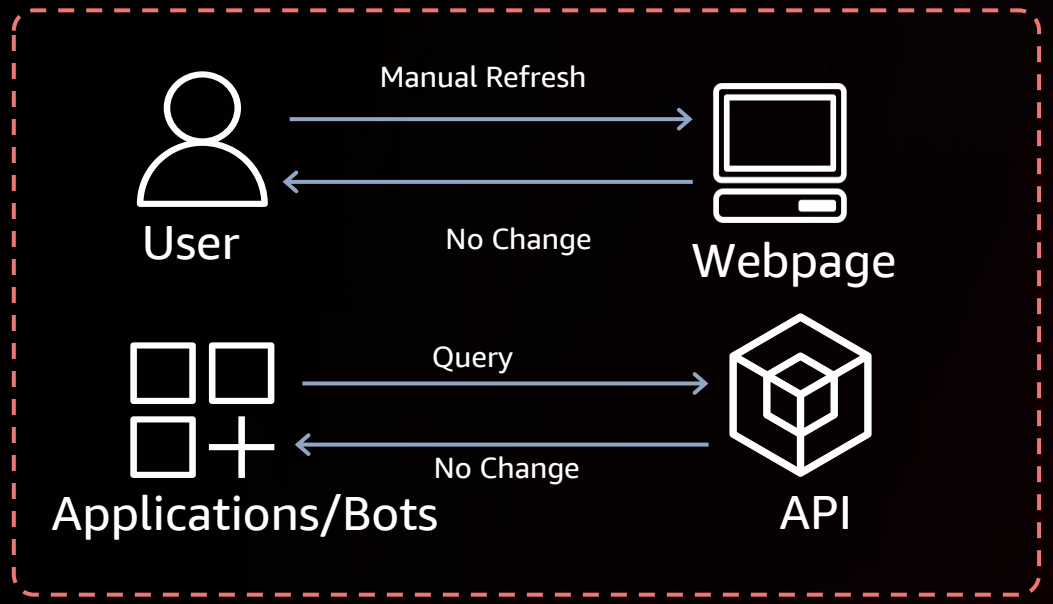
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Traditional: Poll for updates

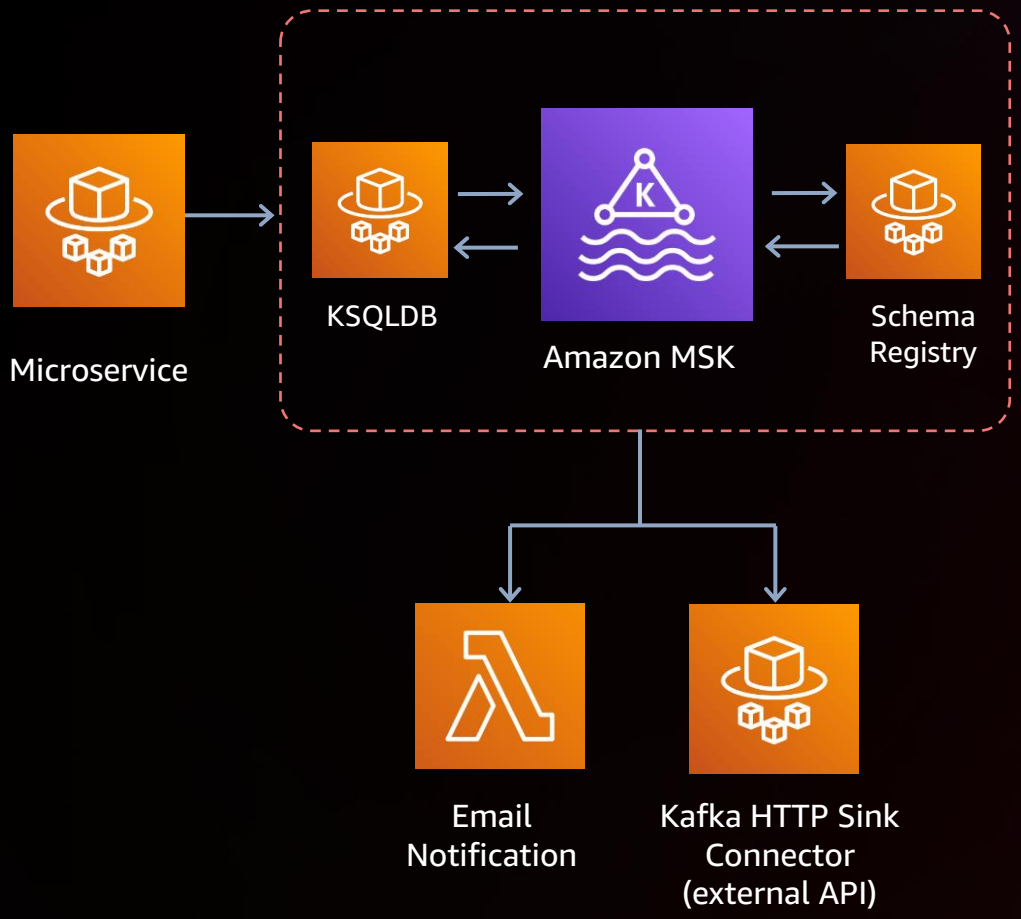


Users would need to regularly check on a release in order to not miss anything

Integrations would run polling queries, that are often expensive, at set intervals

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Event driven architecture with MSK



Message bus to unify our data and give all interested parties one source to tap from

Alert users of a change

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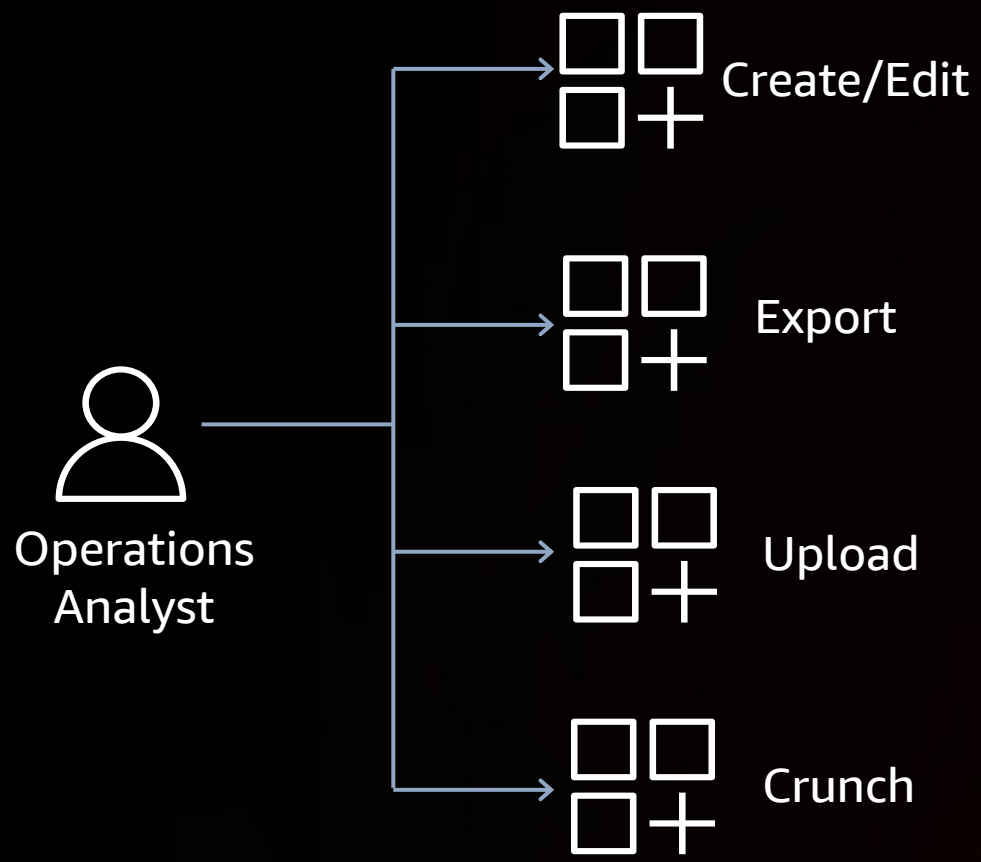
Increase Operational Efficiency

Automate
user workflows

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Traditional: Manually move CSVs

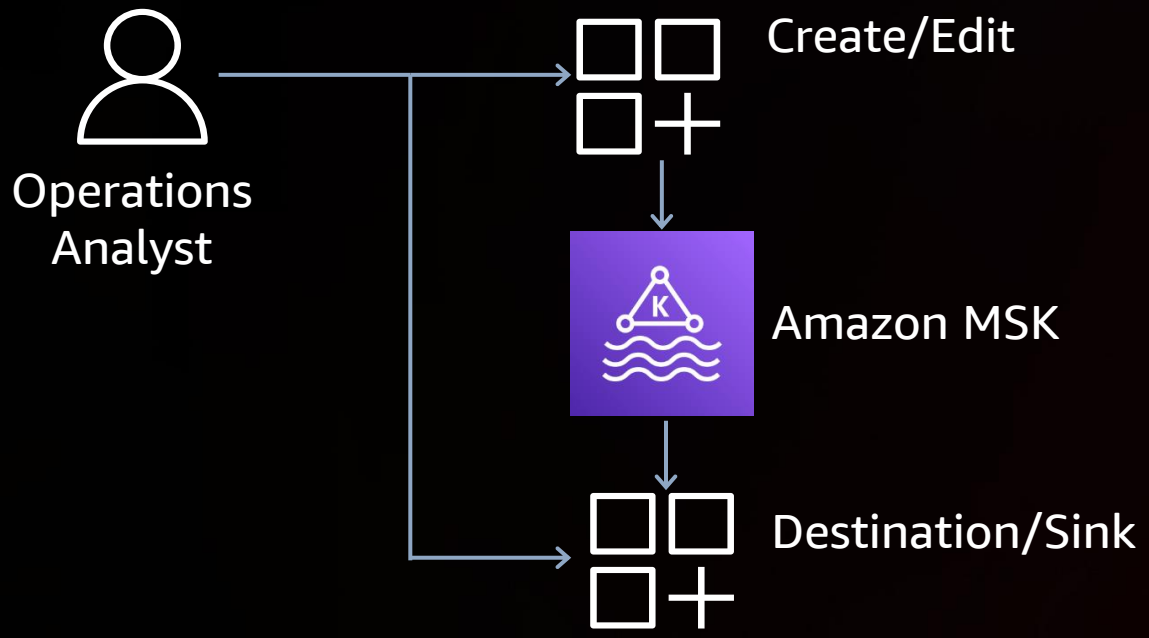


Users would need to export their files to be loaded into relevant dashboards

Developers would need to move CSVs manually to load data into a database

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Connect and empower workflows with MSK



Reduce manual steps

Trigger processes

Automated updates

Reduce errors

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Our objectives



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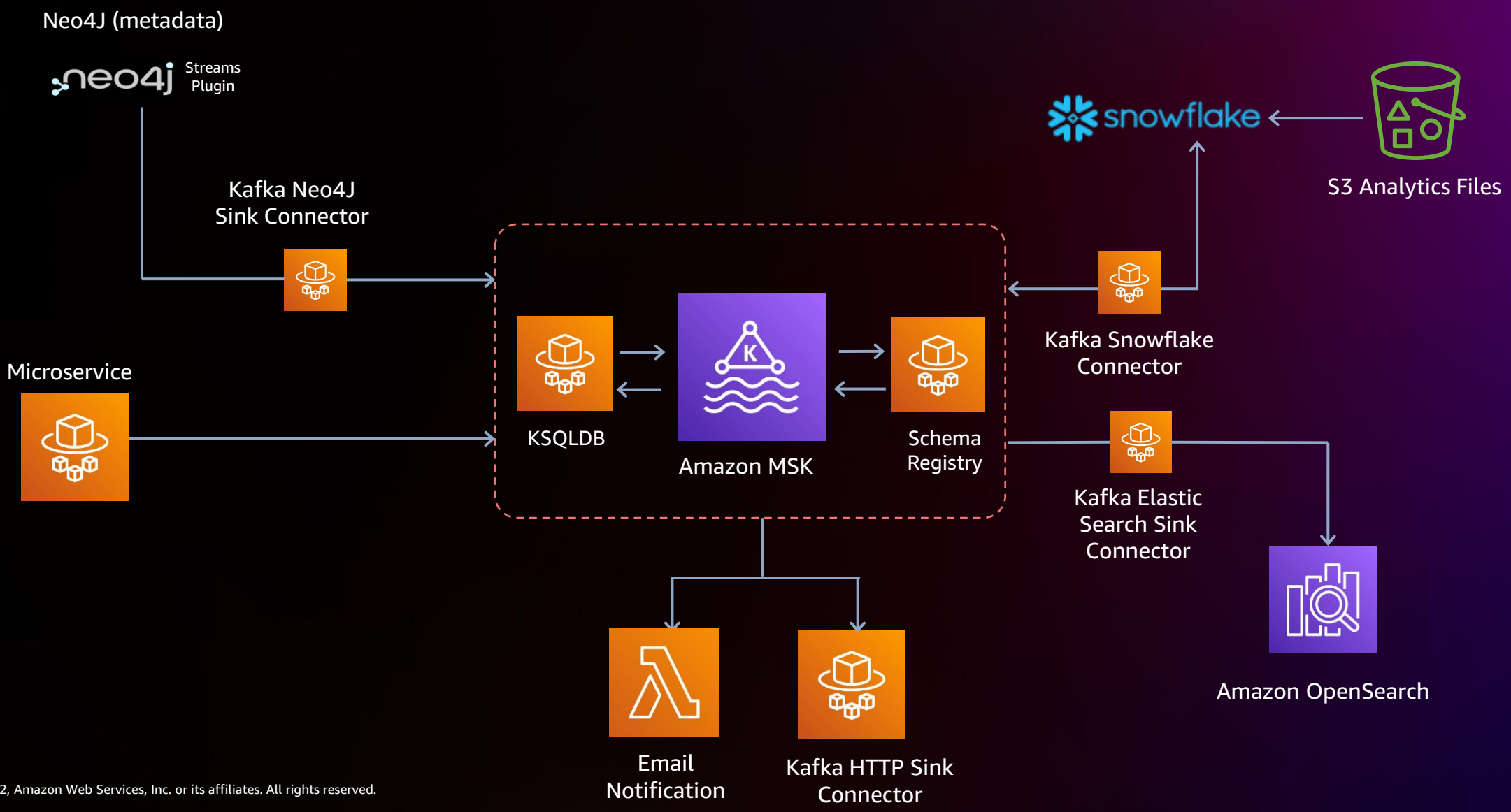
Increase Operational Efficiency

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The Kafka Data Highway



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Benefits achieved

1 week → 1 day

Time to prototype data solution

10 hours → 30 minutes

Time to synchronize data

hours → minutes

Time to discover data

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Benefits achieved



High Customer Satisfaction

- More intuitive products
- Enhanced customer experience
- Increased trust in product



Improved Business Agility

- Higher customer retention
- Data accuracy and actionable insights
- Increased system interoperability



Increased Developer Efficiency

- Robust, responsive and integrated solutions
- Faster pace of innovation
- Centralized logging and debugging

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Lessons learnt



Set goals and plan ahead

Define success criteria
Involve stakeholders



Bring people together

Bring consensus
Cultivate ownership



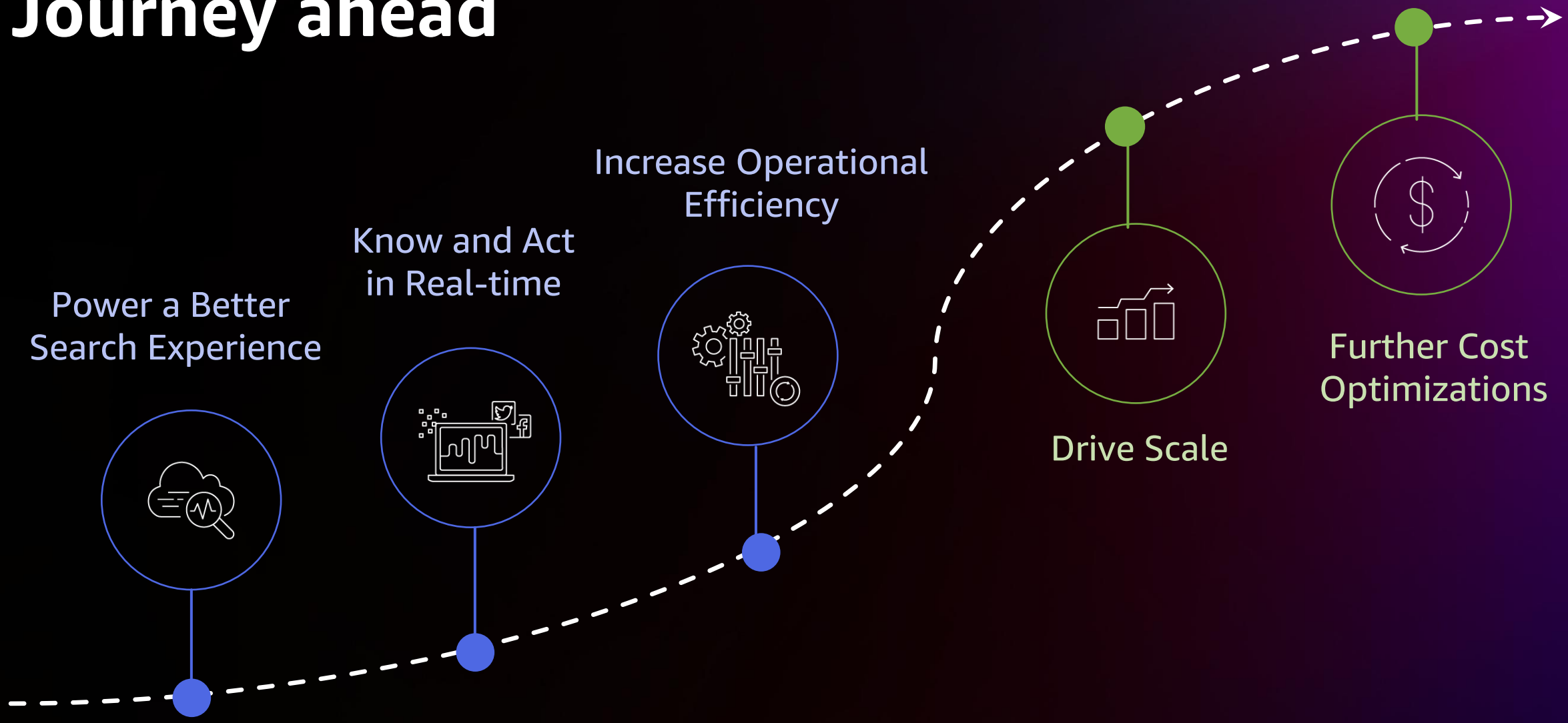
Make easy to use

Enable self-service
Focus on experience

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Journey ahead



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Amazon MSK: The best choice to run Kafka



Fully Managed Open Source Kafka Service

Highly available & secure
open source Kafka
with deep AWS integrations



Simple, Scalable & Cost-efficient

Easy to start,
cost optimized and
on-demand scale



Flexible Consumption Choices

Capacity-based provisioned,
Throughput-based serverless,
Kafka Connect & Schema Registry

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Thank you!

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