



aws SUMMIT

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ANA001

How OLX Autos migrated their search platform to Amazon OpenSearch Service

Ankit Kohli (he/him)

Engineering Manager, Personalization & Search,
OLX Autos

Akshaya Rawat (he/him)

Senior Solutions Architect
AWS India



Agenda

- Customer challenges and real-time search
- Common use cases
- Amazon OpenSearch Service
 - Managed
 - Secure
 - Observability
 - Cost-conscious
- Amazon OpenSearch Serverless
- OLX Autos migration to Amazon OpenSearch

Generate value from your data



Make better decisions



Improve efficiencies



Respond faster



Uncover opportunities



Return the most relevant search results

Real-time search at scale



Search

INDUSTRY USE CASES



**e-commerce
platform**



Document portal



**Recommendation
engine**



Platform search

Log analytics



Log Analytics

INDUSTRY USE CASES



**Application
monitoring**



Security monitoring



Business Insights



Observability



Amazon OpenSearch Service

Amazon OpenSearch Service securely unlocks real-time search, monitoring, and analysis of operational data.



Managed: Increase operational excellence and use a popular open source solution.



Secure: Audit and secure your data with a data center and network architecture and built-in certifications



Observability: Systematically detect potential threats and react to a system's state through an open source solution for machine learning, alerting, and visualization



Cost conscious: Optimize time and resources for strategic work



OpenSearch project

>100MM

OpenSearch project downloads
since launch

Top 4 search engine

DB-Engines ranking

40+

Partners and growing

10k+ pull request merged

200%+ growth

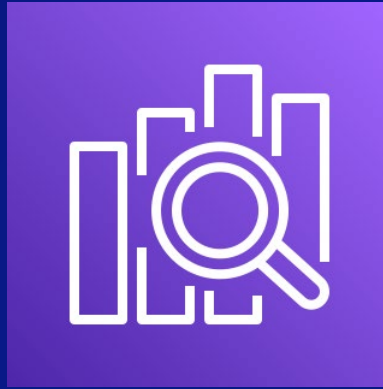
Multiple service providers

AWS, Oracle, Aiven-Azure, Bonsai-GCP

Search Services – a suite of related offerings



OpenSearch and
OpenSearch Dashboards



Amazon OpenSearch
Service



Amazon OpenSearch
Serverless



Features

Managed open source search

Remove time spent on upskilling and managing your deployment



- ✓ Auto-tuned and indexed numbers
- ✓ Hardware provisioning
- ✓ AWS managed software installation and patching
- ✓ AWS monitors and repairs, 24x7
- ✓ AWS scales clusters
- ✓ AWS handles cross-region replication with high reliability
- ✓ No downtime for updates and upgrades
- ✓ Storage tiering
- ✓ Automatically provision and adjust resources for fast data ingestion rates and millisecond response times.

Secure your data

Maintain high security for authentication, authorization, encryption, audit, and compliance



- ✓ SAML integration
- ✓ Integrated encryption across use cases with AWS KMS
- ✓ Fine-grained access control
- ✓ Detailed security auditing
- ✓ Backward compatible security patches for all supported versions to minimize required upgrades
- ✓ Compliance: HIPAA, FedRAMP, DoD CC SRG, SOC, PCI, ISO, & CSA STAR

Observability

Detect potential threats through an open source solution



- ✓ Combined log and trace analysis
- ✓ Machine-learning-powered anomaly detection for real-time adjustments
- ✓ Integrated alerting across use cases with Amazon CloudWatch
- ✓ Only charged for consumed infrastructure
- ✓ Scale up to 3 PB in a single cluster
- ✓ 2200 Sigma security rules
- ✓ Alert in real-time
- ✓ Log schema integration with Amazon security Lake's OCSF standard

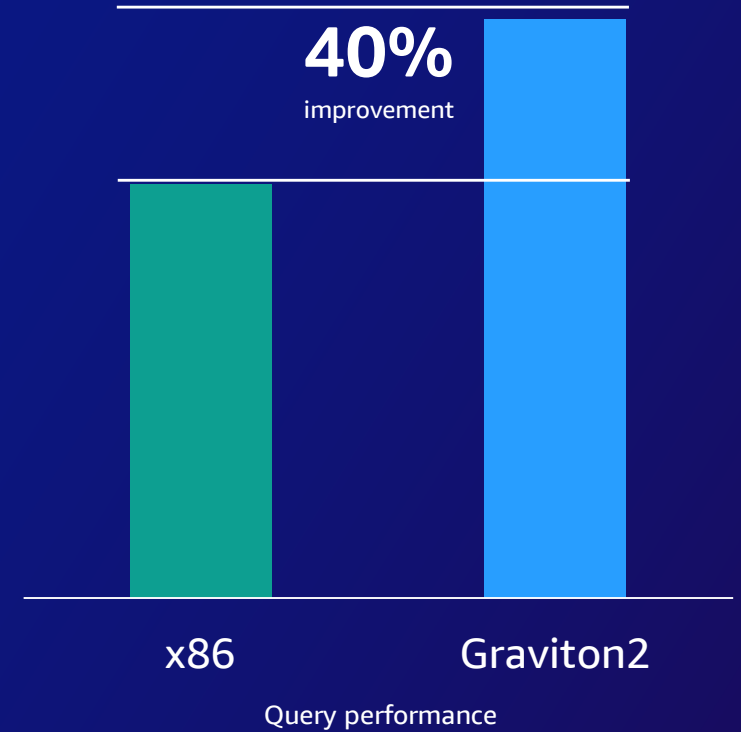
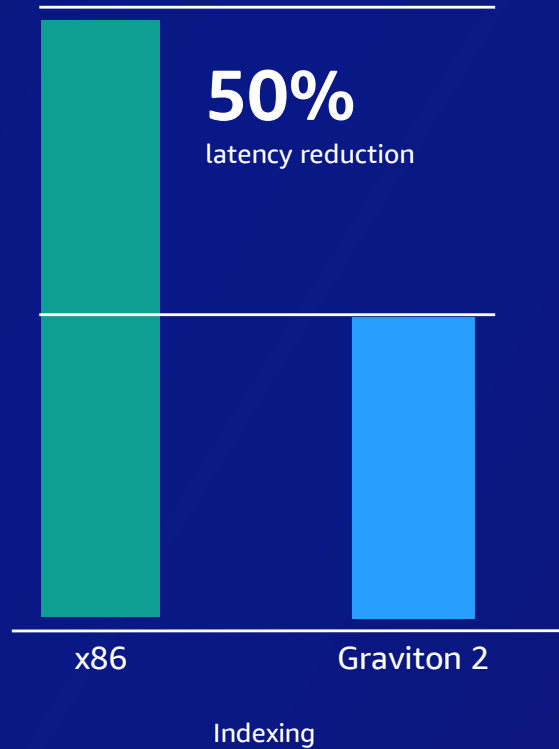
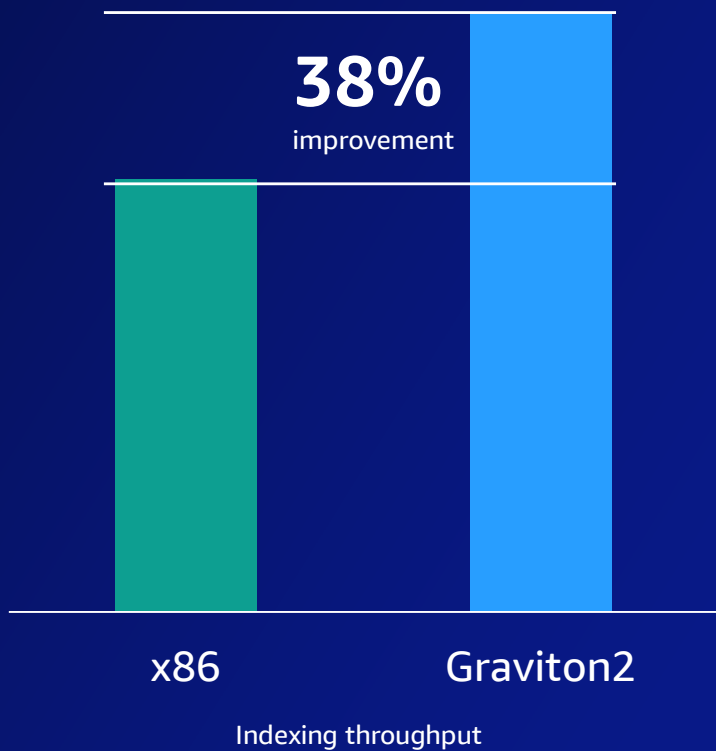
Cost-conscious

Optimize time and resources for strategic work



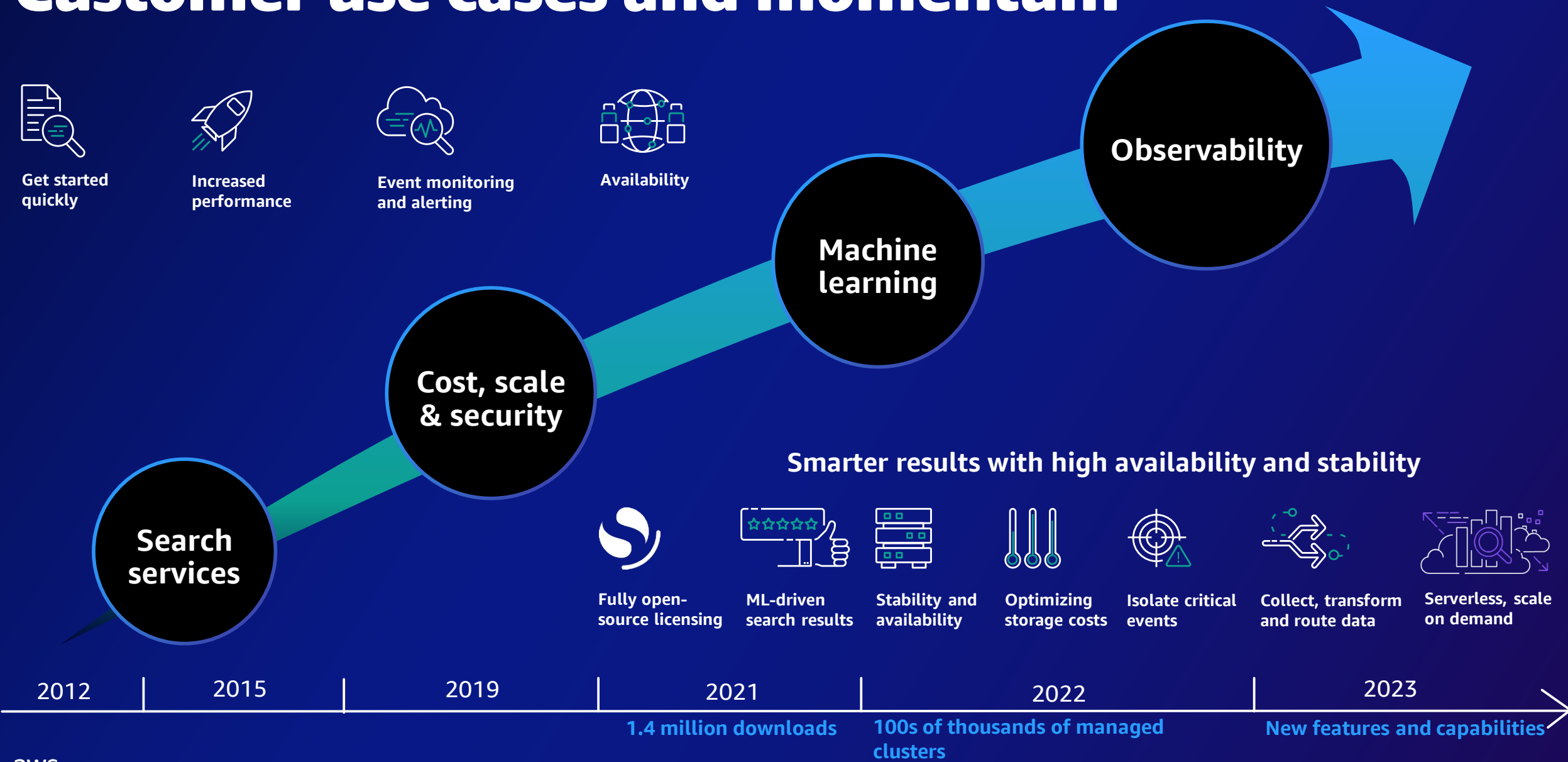
- ✓ Streaming data integrations with Amazon S3, Amazon Kinesis Data Streams, Amazon DynamoDB, Amazon Kinesis Data Firehose, Amazon CloudWatch, and AWS IoT
- ✓ Load data with Logstash or simple low-code serverless ingestion
- ✓ Support for multiple query languages (OpenSearch, SQL, PPL)
- ✓ 90% cost reduction with UltraWarm (compared to hot storage)
- ✓ Fast access to virtually unlimited pre-indexed data via cold storage (S3)
- ✓ No lock-in
- ✓ Free automated backups for 14 days
- ✓ Reduce cost by 30% with AWS Graviton2 optimized instances due to increased efficiency
- ✓ Pay only for resources used

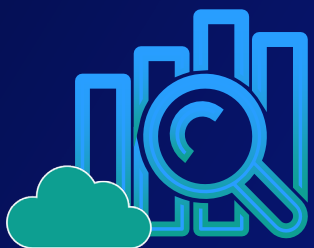
Reduce cost with custom-built silicon: AWS Graviton2



30% better price to performance compared to fifth-generation instances

Customer use cases and momentum





Amazon OpenSearch Serverless



Easy to administer

No sizing, scaling and tuning of clusters, and no shard and index lifecycle management



Fast

Automatically scale resources to maintain consistently fast data ingestion rates and query response times



Ecosystem

Get started in seconds using the same OpenSearch clients, pipelines, and APIs



Cost-effective

Pay only for the resources consumed

Amazon OpenSearch Serverless

Search and analyze data in seconds

Fast data ingestion rates

Millisecond query response times

Pay only for the resources used

YOU

Secure and compliant

Compute provisioning

Automatic scaling

High durability

Built-in resiliency

Automated patch management

Advanced Monitoring

aws





OUR MARKETS



+US\$1B in car transactions since Jan 2020

+400K cars bought, sold, and inspected to date

~150K car dealers have used OLX Autos in the past year

Free car inspection with a **convenient** and **trusted** car selling service with immediate payment in **1 hour** or less

EVERY MONTH

~500K cars listed

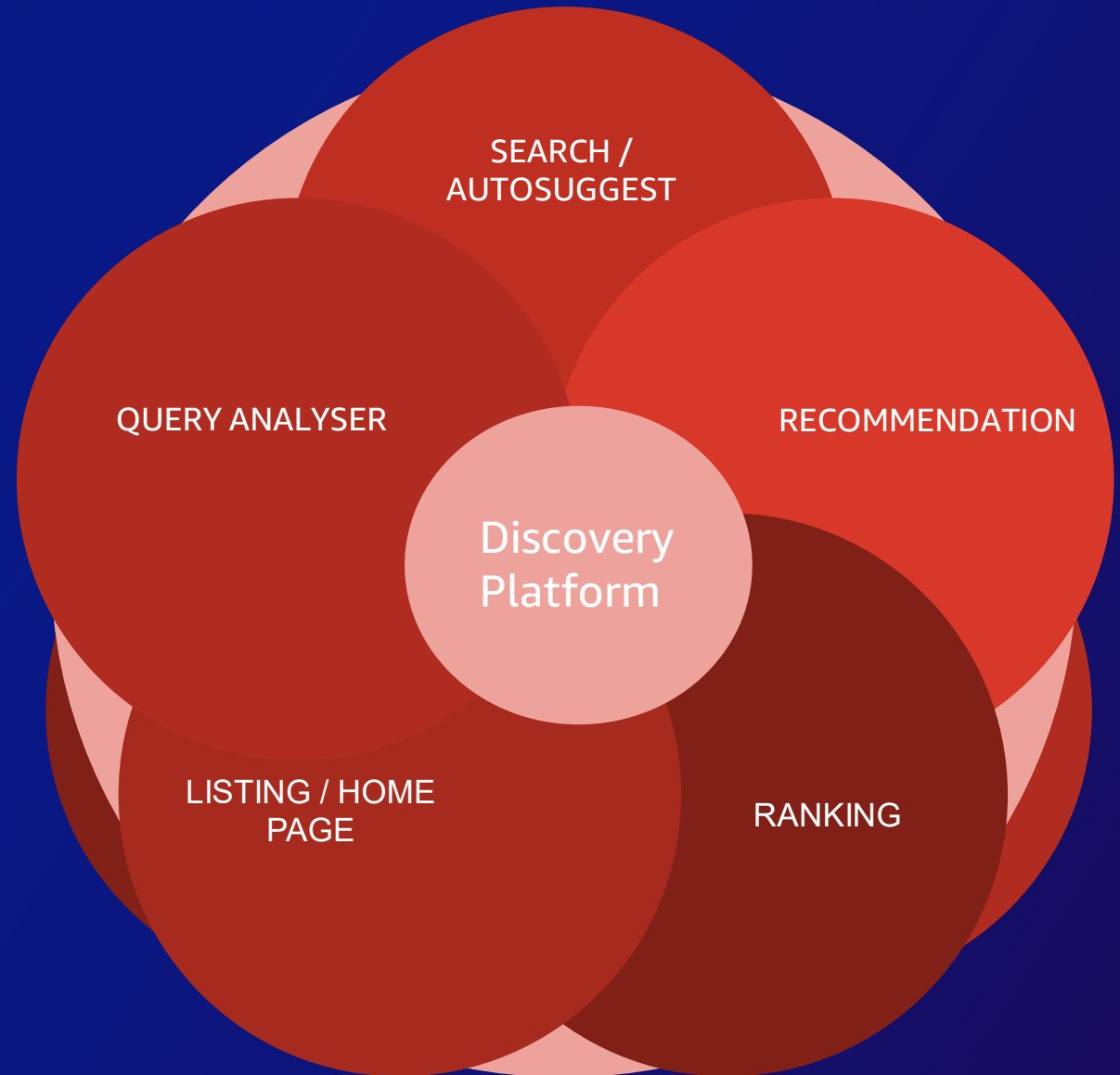
~50,000 car inspections

OLX Autos and AWS Partnership

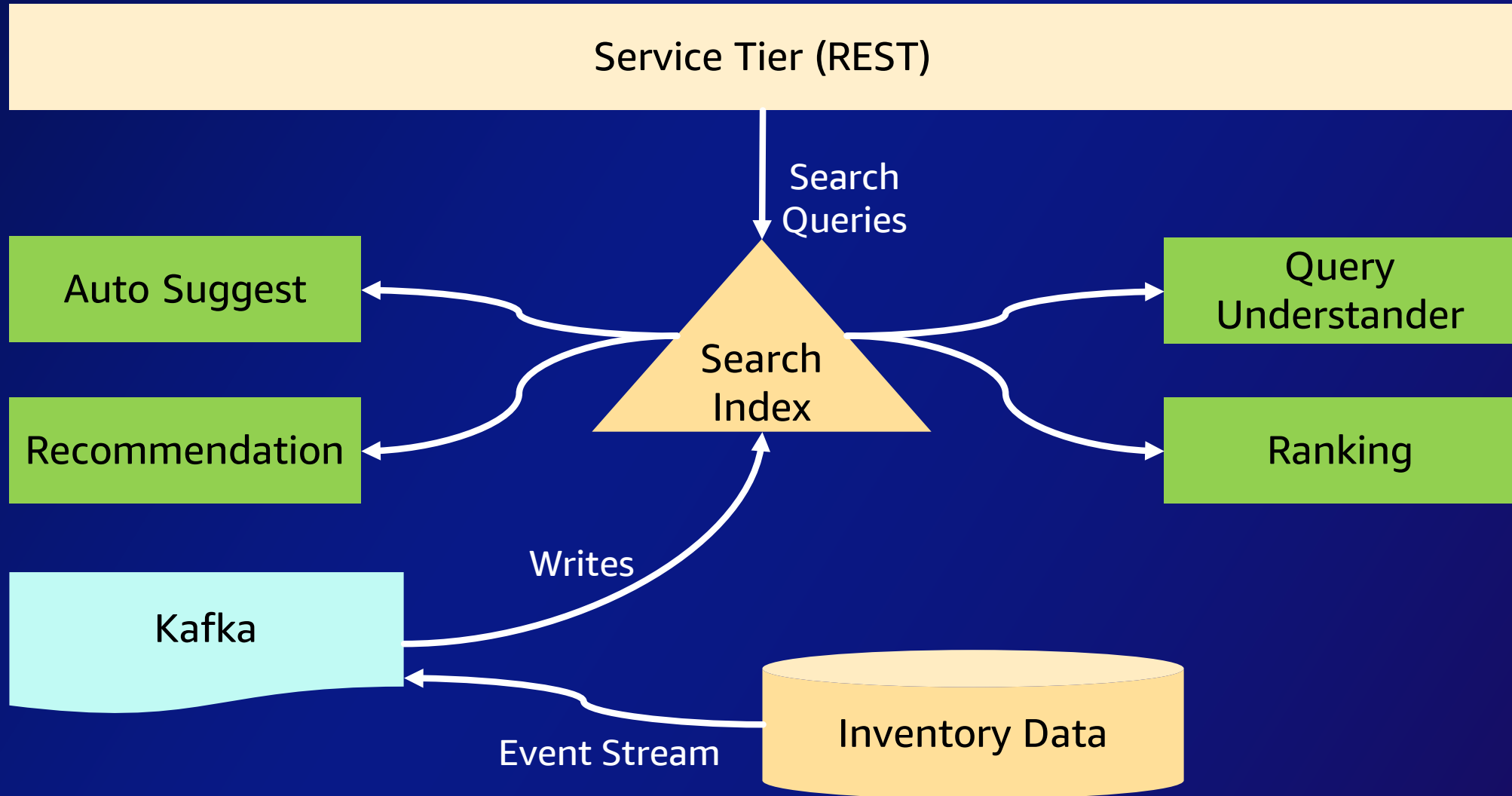
- AWS is preferred cloud partner
- Multiple deployment across the globe
- Support within 15 minutes with Enterprise Support
- Accelerated deployment cycle
- More time and mindshare to innovate

Discovery Platform

- Throughput - **200K RPM**
- Self Managed Solr Cluster
- 15+ microservices
- Max Cluster Size - **78 c5.4xlarge Nodes**



Architecture



Challenges with self managed Solr

- Self managed
- Frequent downtime
- Developer productivity
- Monitoring
- Slow startup
- Cost
- Extreme scaling

Why OpenSearch?

- Managed service
- Easy setup and configuration
- In-place upgrades
- Event monitoring and alerting
- Security
- Graviton2 price performance

Benefits



99%

• Error rate reduction



1

• Appdex Score - 1 consistent



10%

• Response time reduction



40%

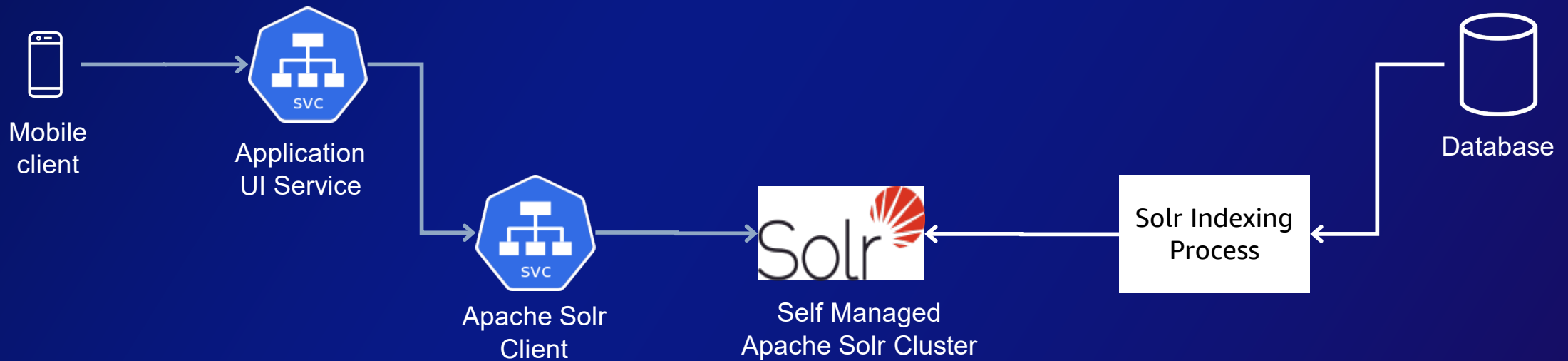
• Infra cost reduction



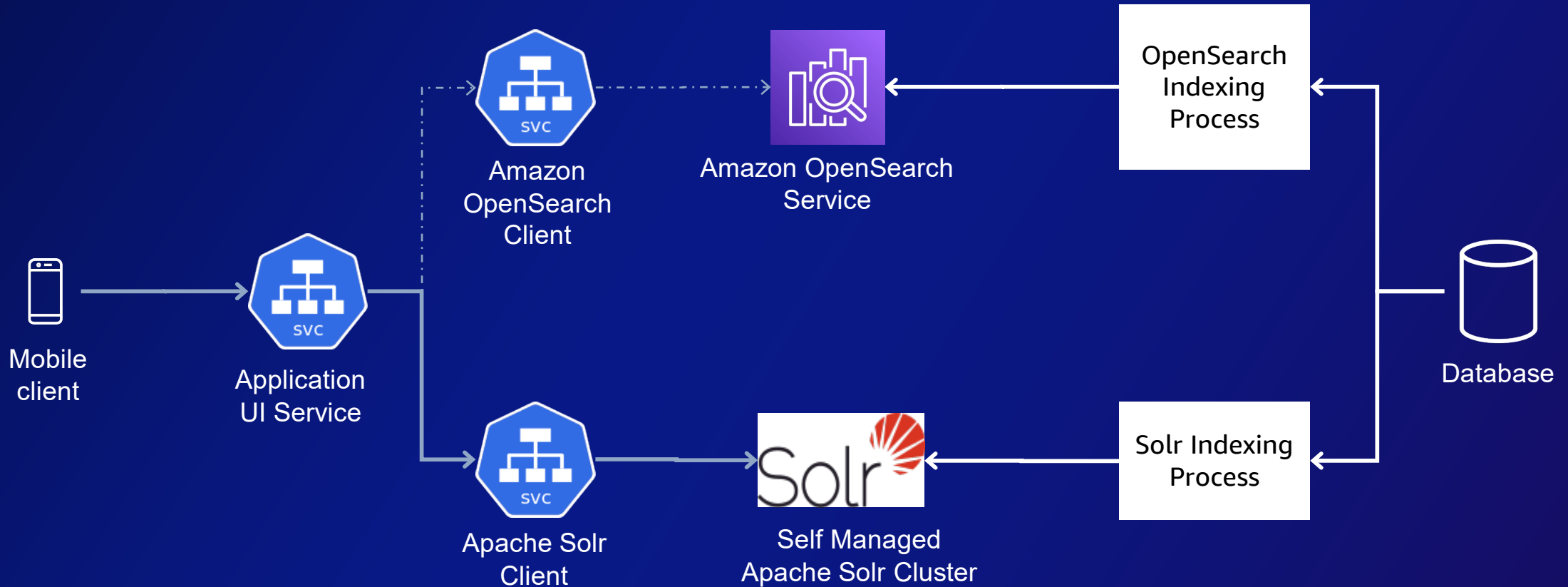
32%

• Cluster size reduction

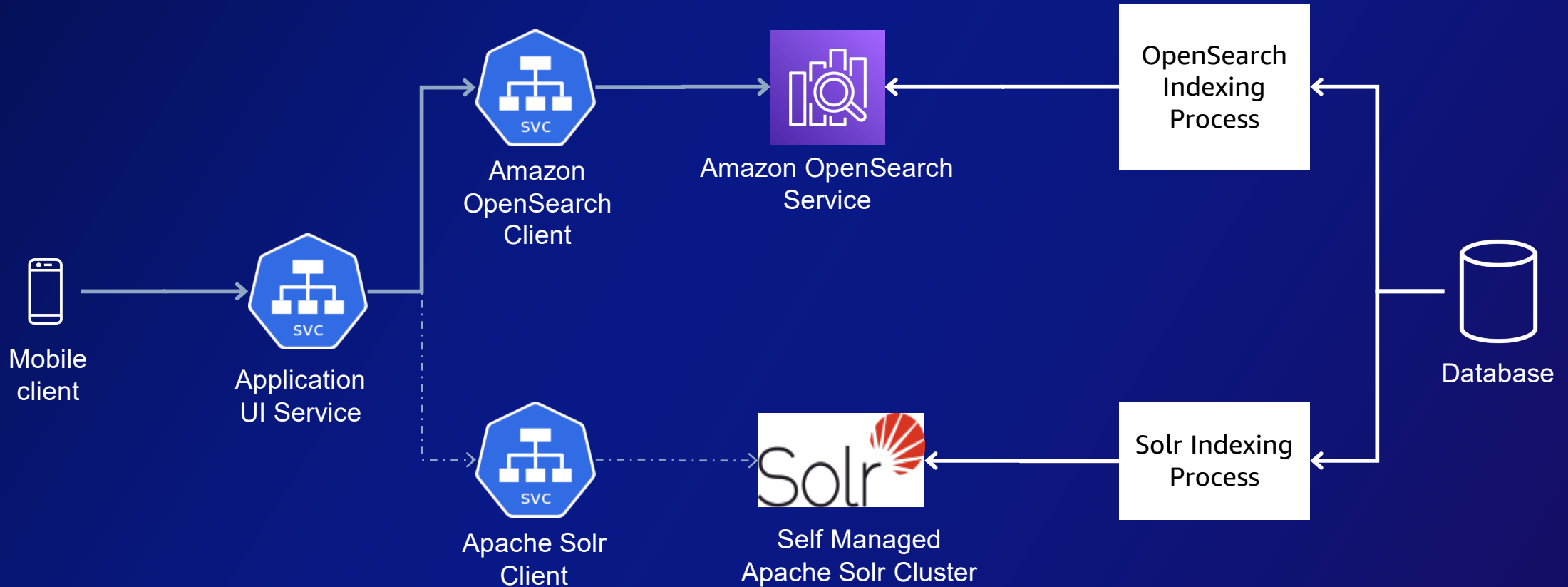
How we migrated?



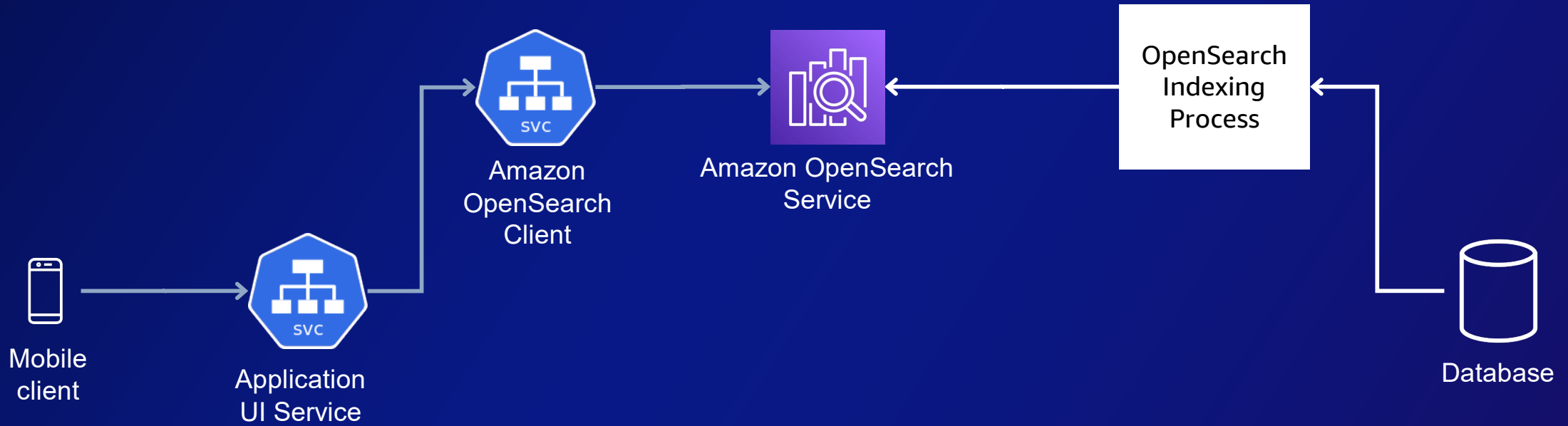
How we migrated?



How we migrated?



How we migrated?

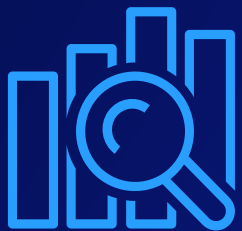


How we migrated?

- Started with smaller load markets , moved live traffic to OpenSearch
- Monitored the cluster metrics with AWS CloudWatch
- During migration switched to Graviton2
- Better performance and lower cost with Graviton2
- Tuned cluster size for each region based on data

Future Roadmap

- Search as a service
- Security
- Analytics
- Performance analysis
- Machine learning support



Amazon OpenSearch Service

Amazon OpenSearch Service securely unlocks real-time search, monitoring, and analysis of operational data.



10's of thousands of active customers



100's of thousands of managed clusters



Trillions of requests per month

Get started in minutes

1



Create an AWS
Free Tier account

2



Launch an Amazon
OpenSearch Service
cluster in minutes

3



Follow the [Getting Started
Tutorial](#)

Amazon OpenSearch Workshops



<https://workshops.aws/card/opensearch>



Resources



Stay up to date!

<https://aws.amazon.com/opensearch-service/resources>



Stay connected



Twitter: @OpenSearchProj
<https://twitter.com/OpenSearchProj>



LinkedIn:
<https://www.linkedin.com/company/opensearch-project>



YouTube:
<https://www.youtube.com/playlist?list=PLhr1KZpdzukdBBUx1LHR8yPNQa5ZTuWYd>



Twitch:
<https://www.twitch.tv/OpenSearchProject>



Meetup:
<https://www.meetup.com/OpenSearch/>

skillbuilder.aws 

Your time is now

Build in-demand cloud skills *your way*



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Thank you!

Ankit Kohli

Engineering Manager,
Personalization & Search, OLX
Autos

Akshaya Rawat

Senior Solutions Architect
AWS India



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