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HCRT008

Managing hyperscale Q-Commerce growth with 10-min deliveries

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Agenda

1. About Zepto
2. Evolution of Application Stack
3. Evolution of Data Stack
4. Zepto & AWS – Key Services
5. Key Takeaways

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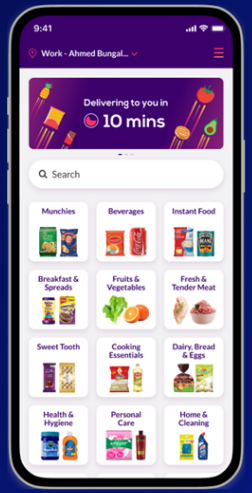
Zepto has revolutionized grocery delivery in India



Order your groceries

Over 6000 products, from fresh fruits to Alexa Smart Speakers

Packed in our dark stores

Optimized packer assignment, planograms & pick-paths though proprietary tech to enable 60-75 seconds pack times

Delivered in 10 mins

Multimodal delivery fleet delivering with a Median Arrival Time of 9-12 mins

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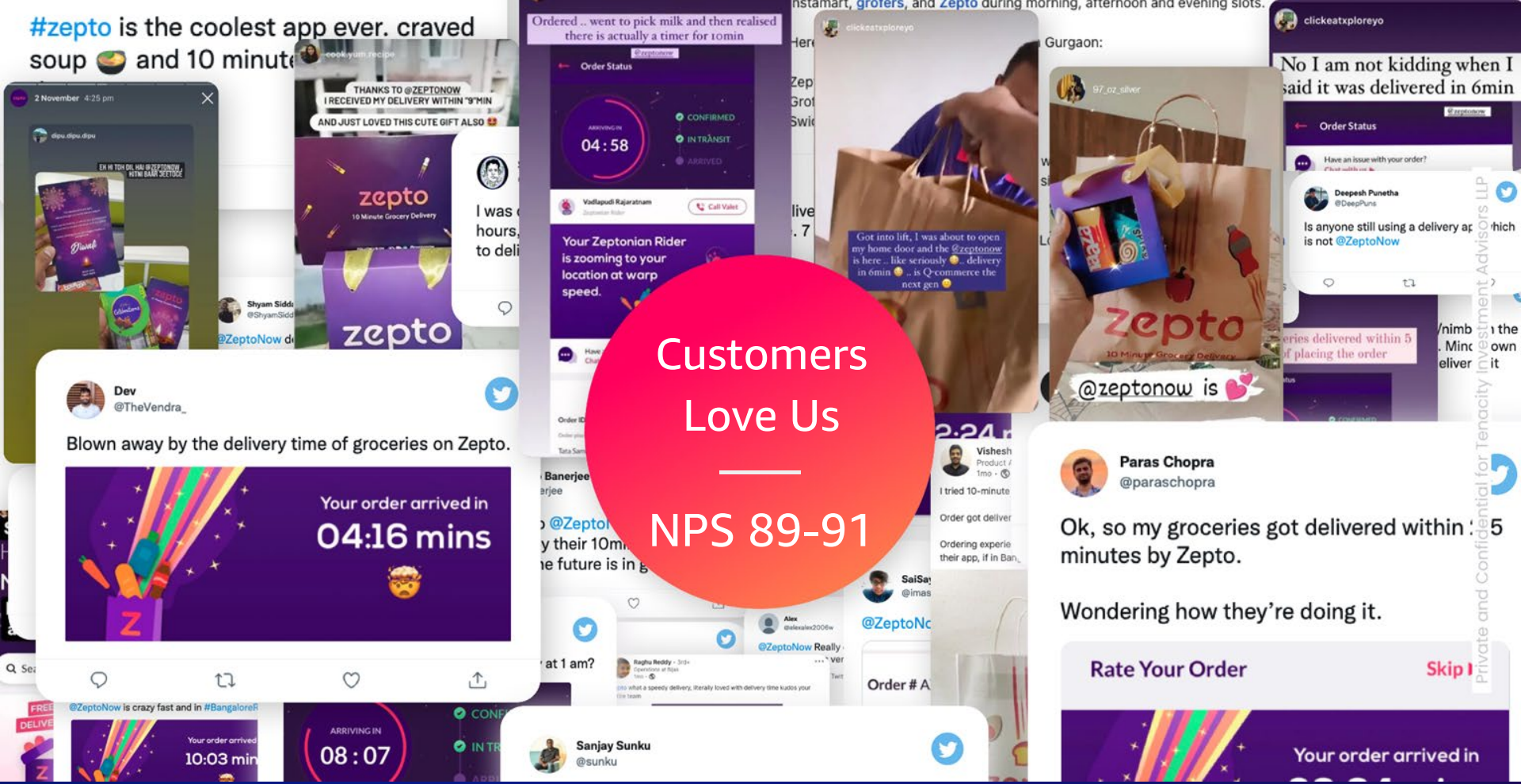

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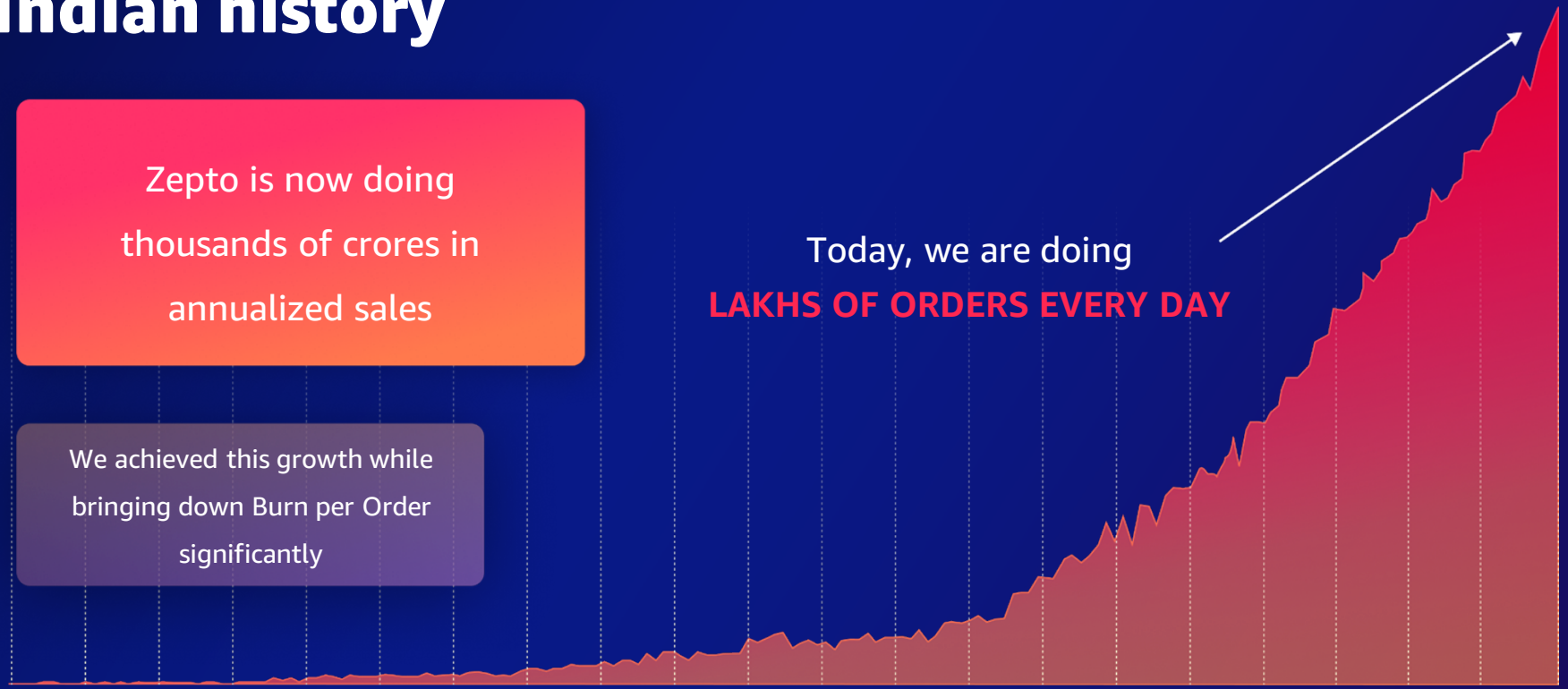
We’re one of the fastest growing companies in Indian history

Zepto is now doing thousands of crores in annualized sales

We achieved this growth while bringing down Burn per Order significantly



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Evolution of application stack

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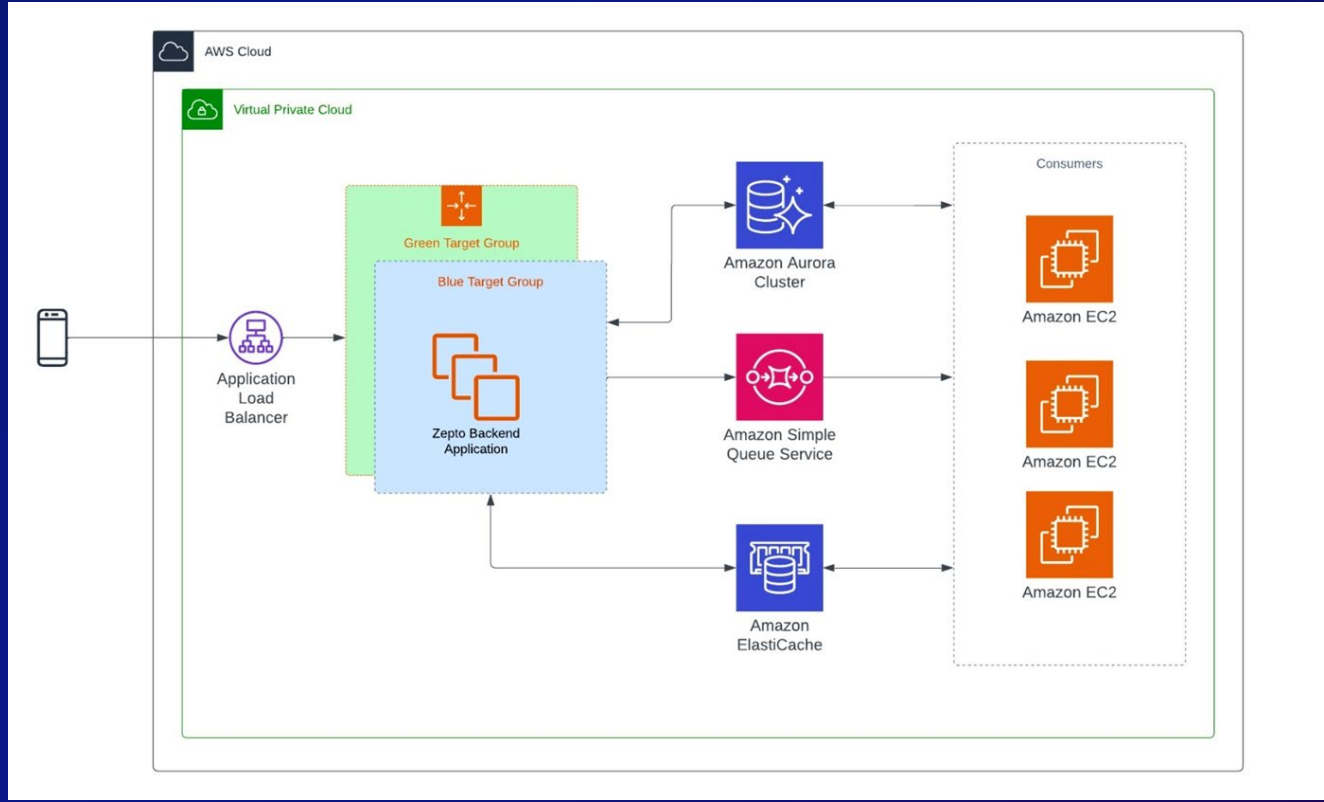
Evolution of application stack: Day 0

- Monolithic Architecture with multiple modules
- Use of Managed services for quicker go-to-market
- Third party systems for Warehouse and Delivery Management systems
- Challenges with scale



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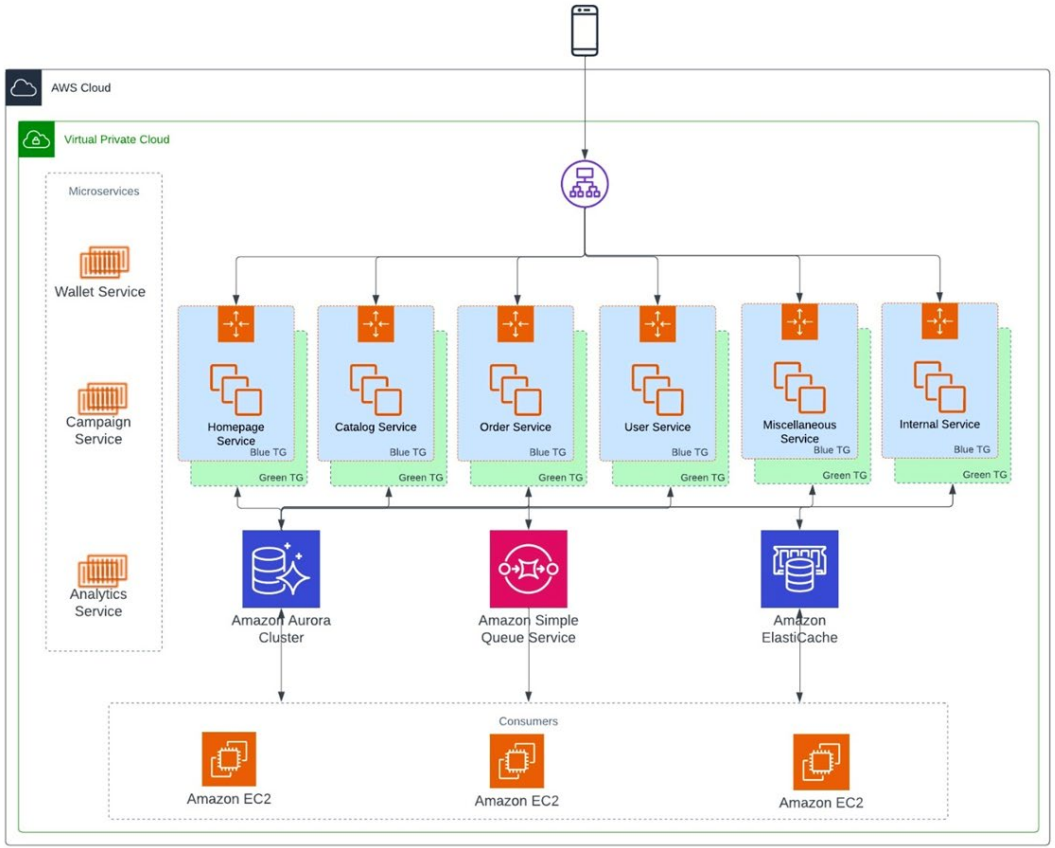
Evolution of application stack: Interim

- Segregated deployment into multiple stacks
- Separate stacks allow for better monitoring and scalability
- Adopted microservices since early days



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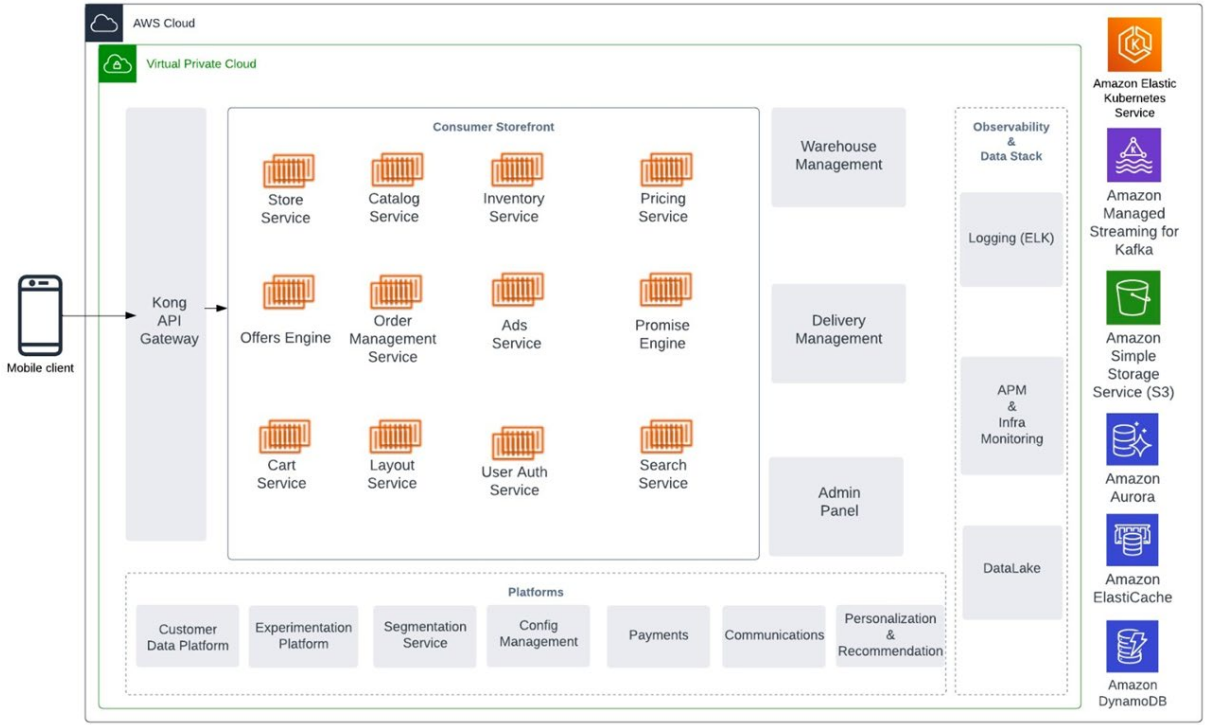
Evolution of application stack: Current

- Microservices Architecture
- Building mission critical systems like Delivery Management in-house
- Building common platforms
- Observability & data stack
- Use of AWS managed services



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Evolution of data stack

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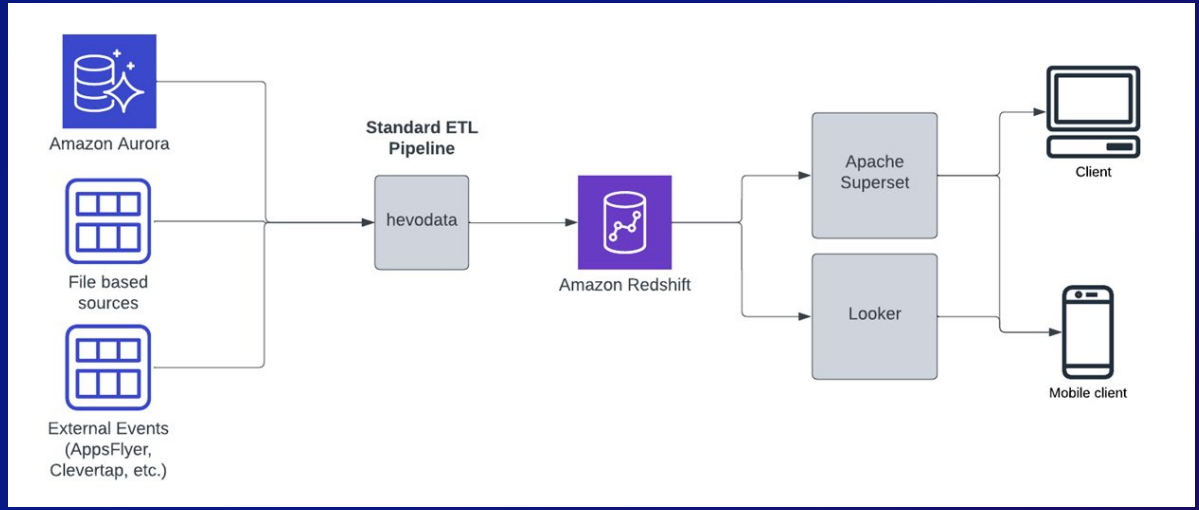
Evolution of data stack: Day 0

- Separate pipelines for raw data ingestion and models
- Production schema directly mapped to source tables
- Flat tables created on source for historical and aggregation



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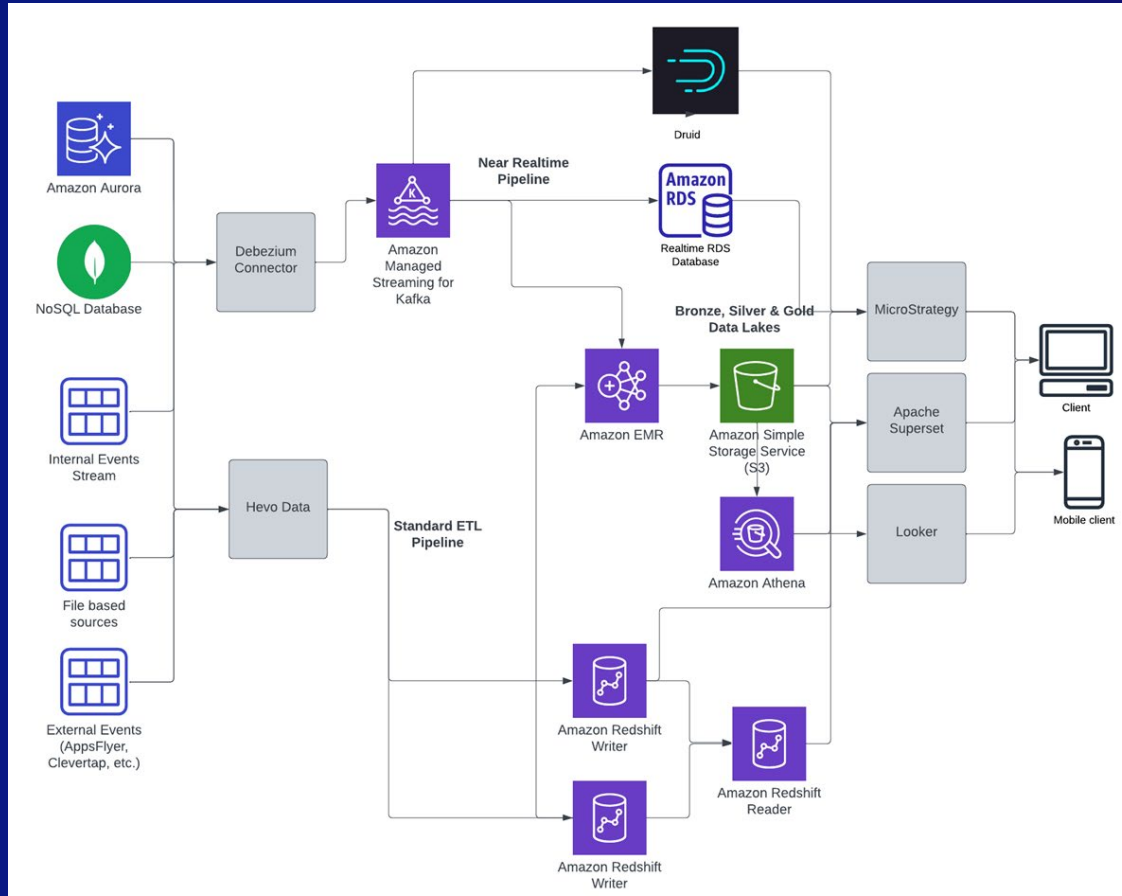
Evolution of data stack: Current

- Multi Master Redshift
- Iceberg format
- Near Real Time Pipeline



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Zepto & AWS - Key services

Amazon Aurora

Amazon Managed Streaming for Apache Kafka

Amazon EC2 Auto Scaling

Amazon ElastiCache

Amazon Simple Storage Service (Amazon S3)

Amazon Redshift

Amazon Simple Queue Service (Amazon SQS)

Amazon Elastic Kubernetes Service (Amazon EKS)

Amazon EMR

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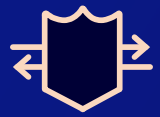
Amazon Aurora & Zepto

Performance & scalability

- Zero replication lag between writer and replica
- High throughput and no worry about IOPS

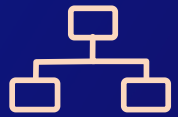
Availability & durability

- Global Cluster for High Availability



Highly secure

- Encryption at rest/in transit
- Supports multiple secure authentication mechanisms and audit controls



Fully managed

- Easy to upgrade/ downgrade instances

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Amazon Redshift & Zepto

Analyze all your data

Price-performance at any scale

Easy, secure, and reliable

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Key Takeaways

1. Being Cloud Native helps with scalability
2. Managed AWS services expedites go-to-market
3. Modular architecture enables microservices
4. UUID based primary key
5. Go as primary language for microservices

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