



What Does Serverless Really Mean, and What It Can Do for You

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Amazon Web Services (AWS)

Story Time!

Chapter 1: Company Needs Help

Context

Product-oriented Shop

B2B, Desktop, and partially a SaaS solution, small experience with AWS, **no experience** with containerization.

Modernization Effort Required

Data intake and processing system reached peak of the capabilities (development, stability, scaling).

Young, but Talented Team

Eager to learn, pragmatic, but not experienced in terms of the *software development life cycle* best practices.

Solutions?

Microservices?

No thank you! I already have one problem and we don't need to have 10 new ones.

Kubernetes?

As above: no operational knowledge about *containers*, not even talking about this tool.

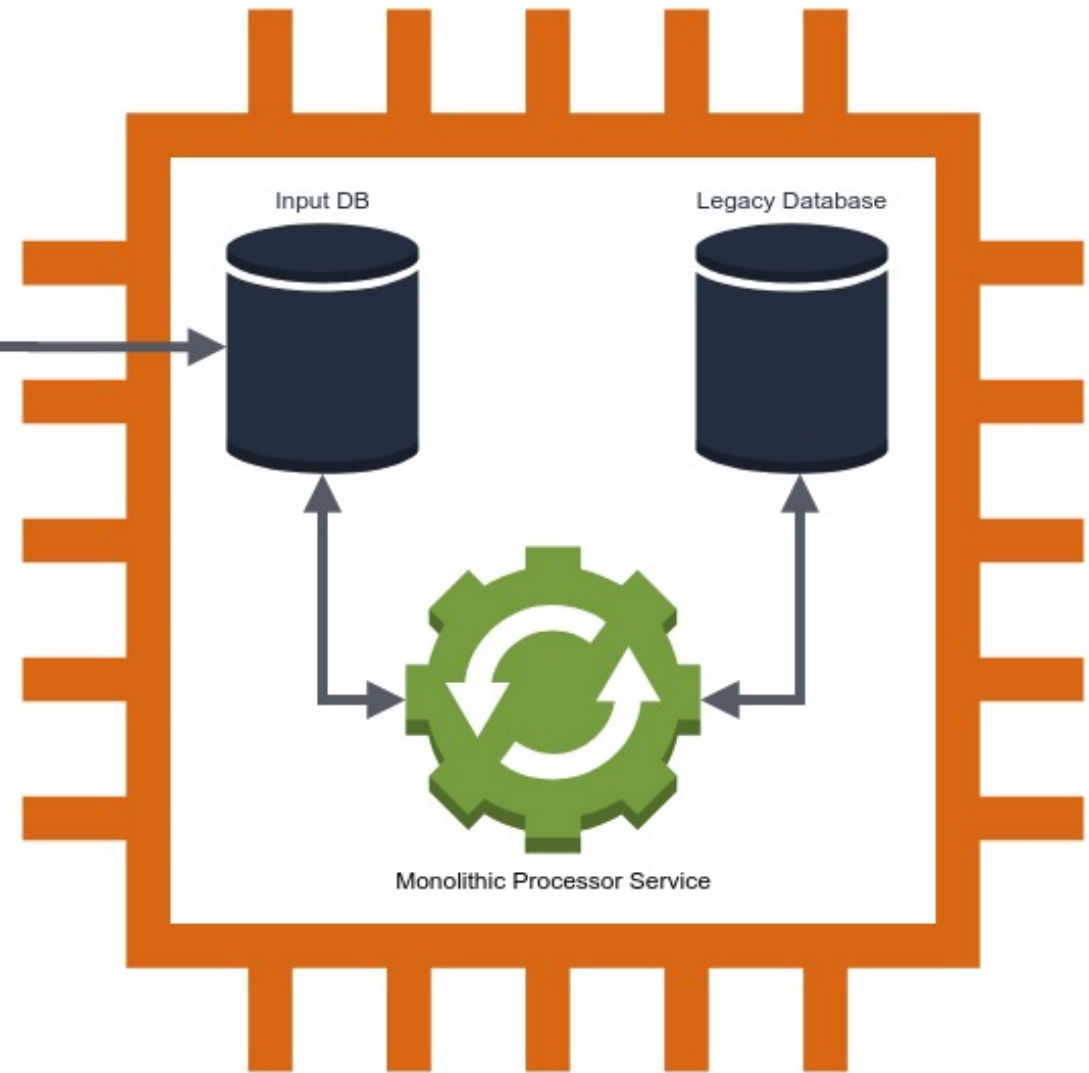
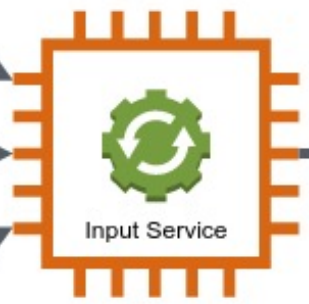
Leave this as-is?

Not possible: business grows due to the demand of customers and there are plenty opportunities to innovate.

Story Time!

Chapter 2: Reconnaissance

AWS Service Charges	\$7,498.45
‣ CloudFront	\$33.26
‣ CloudWatch	\$0.00
‣ Config	\$0.93
‣ Data Transfer	\$99.26
‣ Elastic Compute Cloud	\$6,911.21
‣ Elemental MediaLive	\$37.20
‣ Key Management Service	\$0.00
‣ Simple Notification Service	\$0.00
‣ Simple Storage Service	\$123.94
‣ Support (Developer)	\$218.40
‣ Virtual Private Cloud	\$74.25



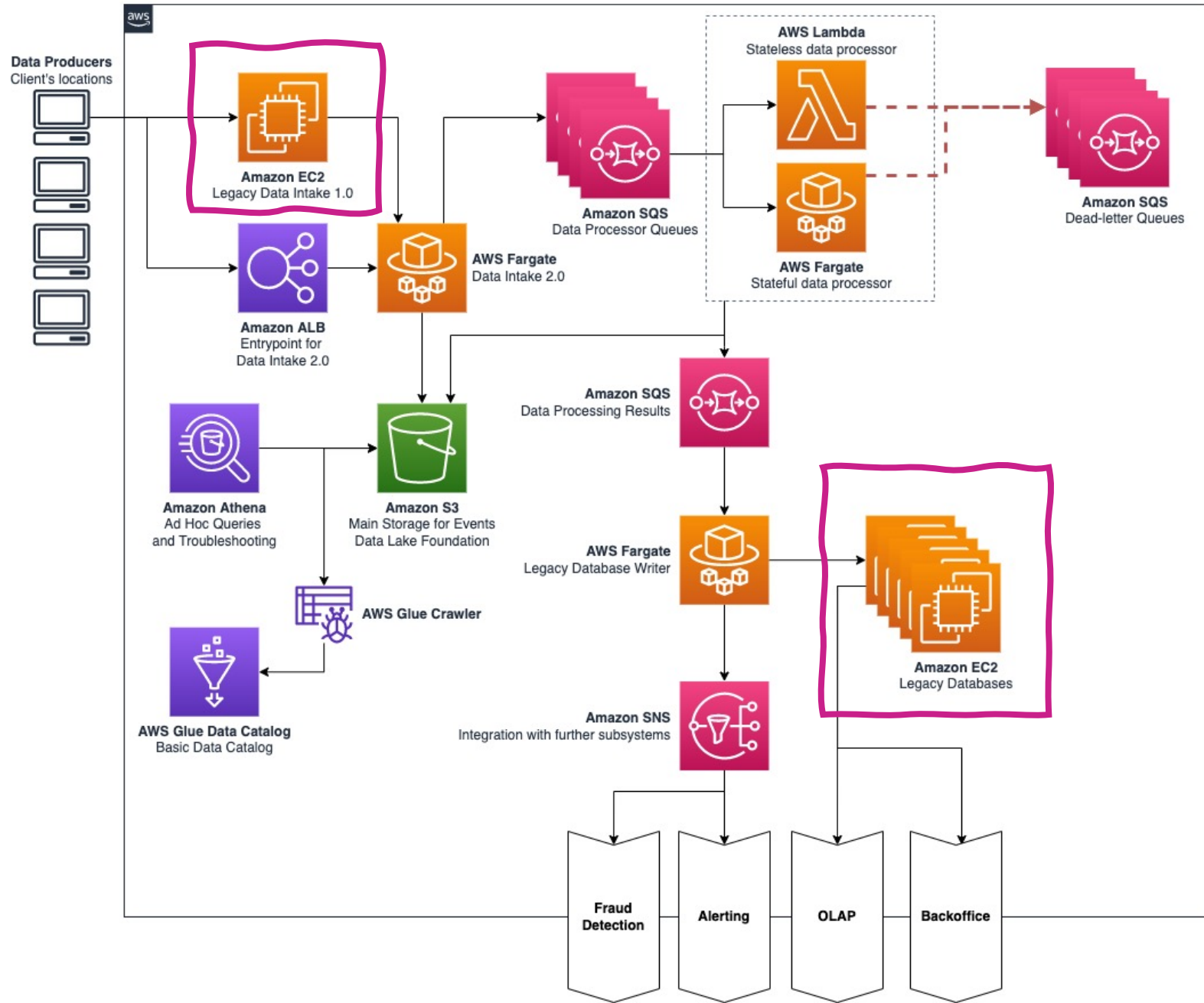
Single EC2 instance with EVERYTHING ELSE

Story Time!

Chapter 3: Pilot project execution

Loss Prevention and Analytics - Retail Networks / FMCG

High-level Architecture of a Data Lake and Data Processing Pipelines





Why Serverless?

Results

Independent Scalability

Serverless architecture and services are offloading the scalability challenges onto the provider.

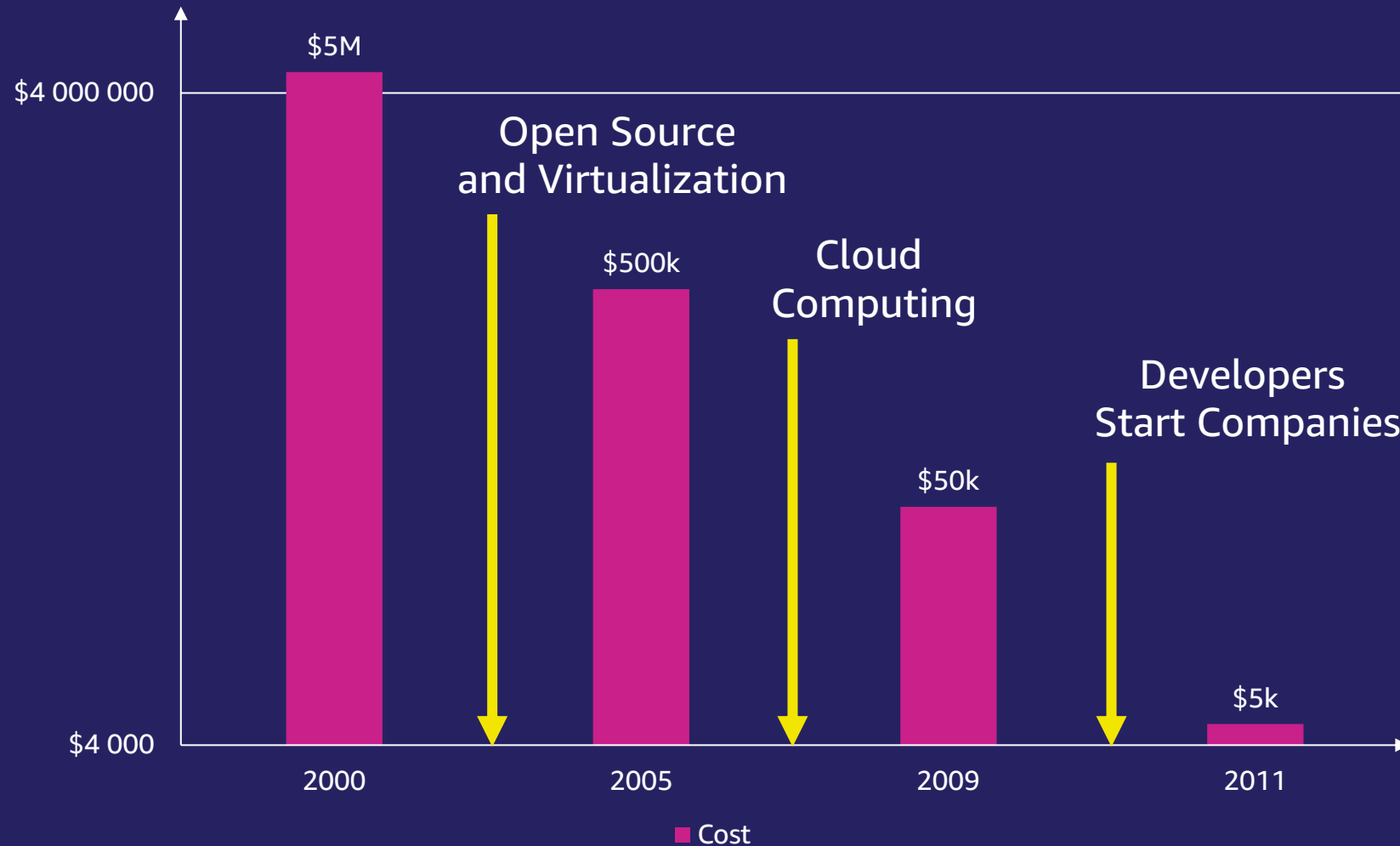
Lower Cost of Development

Reducing deployment time from 3-4 weeks on average to a single day, reducing failure ratio by 80% after 3 months and moving 65% of the traffic.

Effortless Adoption of Continuous Delivery

During the pilot phase thanks to serverless services team introduced: infrastructure as code, multi-stage deployments, full CI/CD automation, and tests.

COST TO LAUNCH AN INTERNET TECH START-UP





What is Serverless?

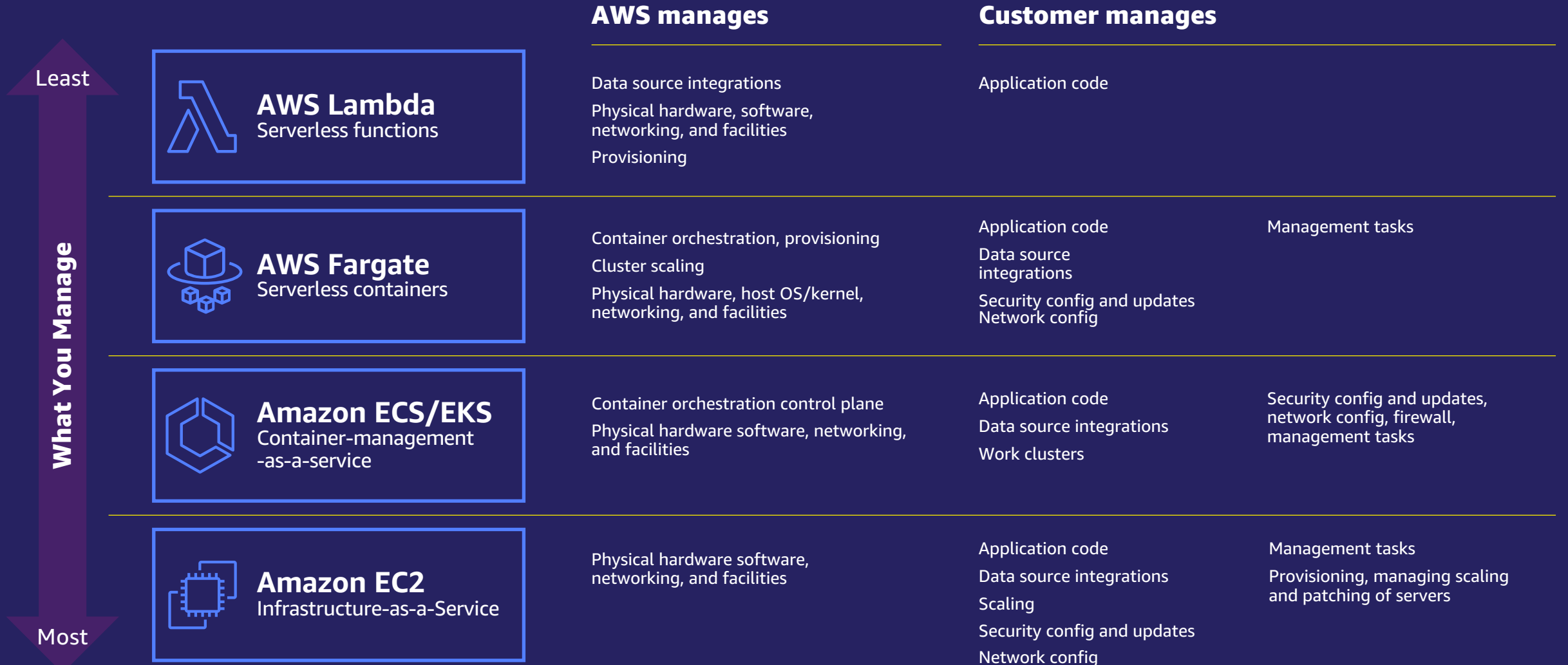
“This sometimes makes my blood boil because I believe that *serverless* isn't a buzzword and that it actually stands for something important!”

Jeremy Daly

GM of Serverless Cloud, Serverless, Inc., AWS Serverless Hero

Stop Calling Everything Serverless! jeremydaly.com

Compute Operational Model



WHAT DOES SERVERLESS REALLY MEAN, AND WHAT IT CAN DO FOR YOU

Serverless is **MORE** than just Compute!

COMPUTE



AWS
Lambda



AWS
Fargate

DATA STORES



Amazon
S3



Amazon Aurora
Serverless



Amazon
DynamoDB

INTEGRATION



Amazon
EventBridge



Amazon
API Gateway



Amazon
SQS



Amazon
SNS



AWS
Step Functions

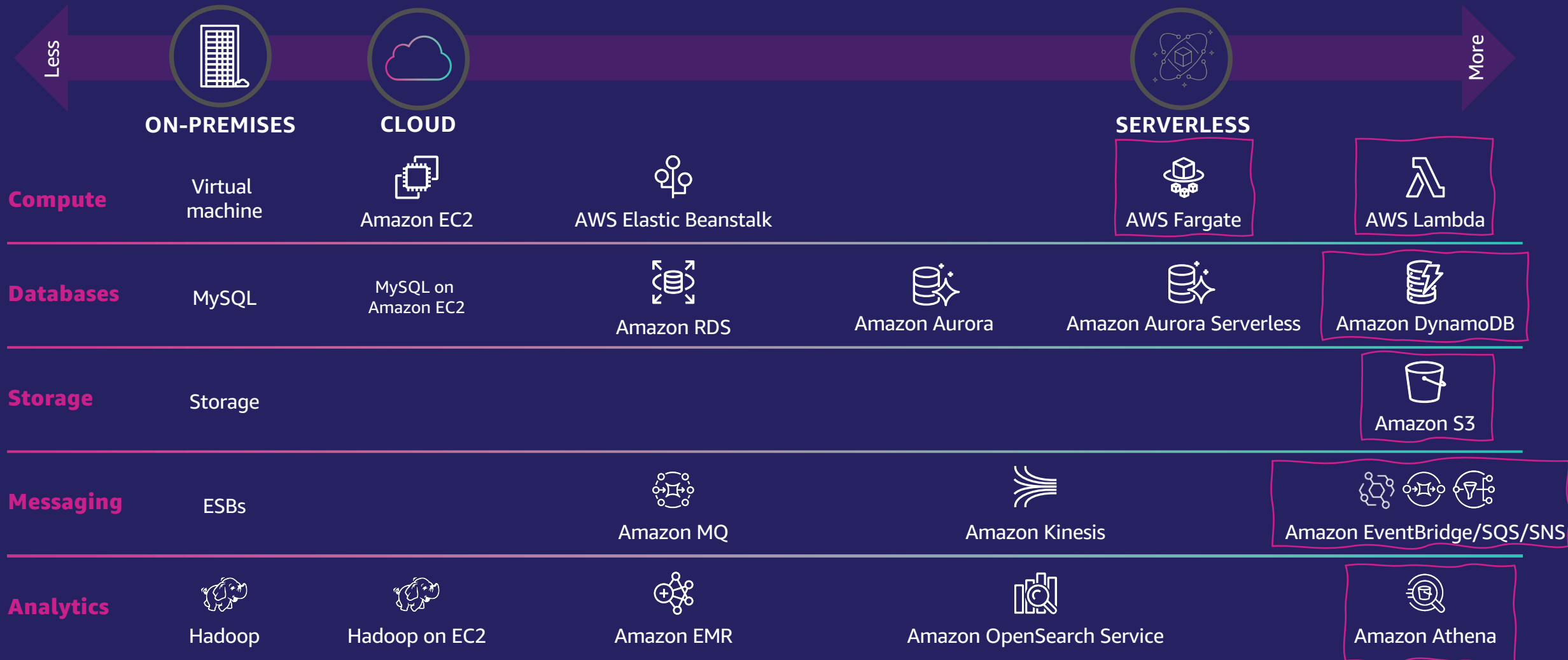


AWS
AppSync



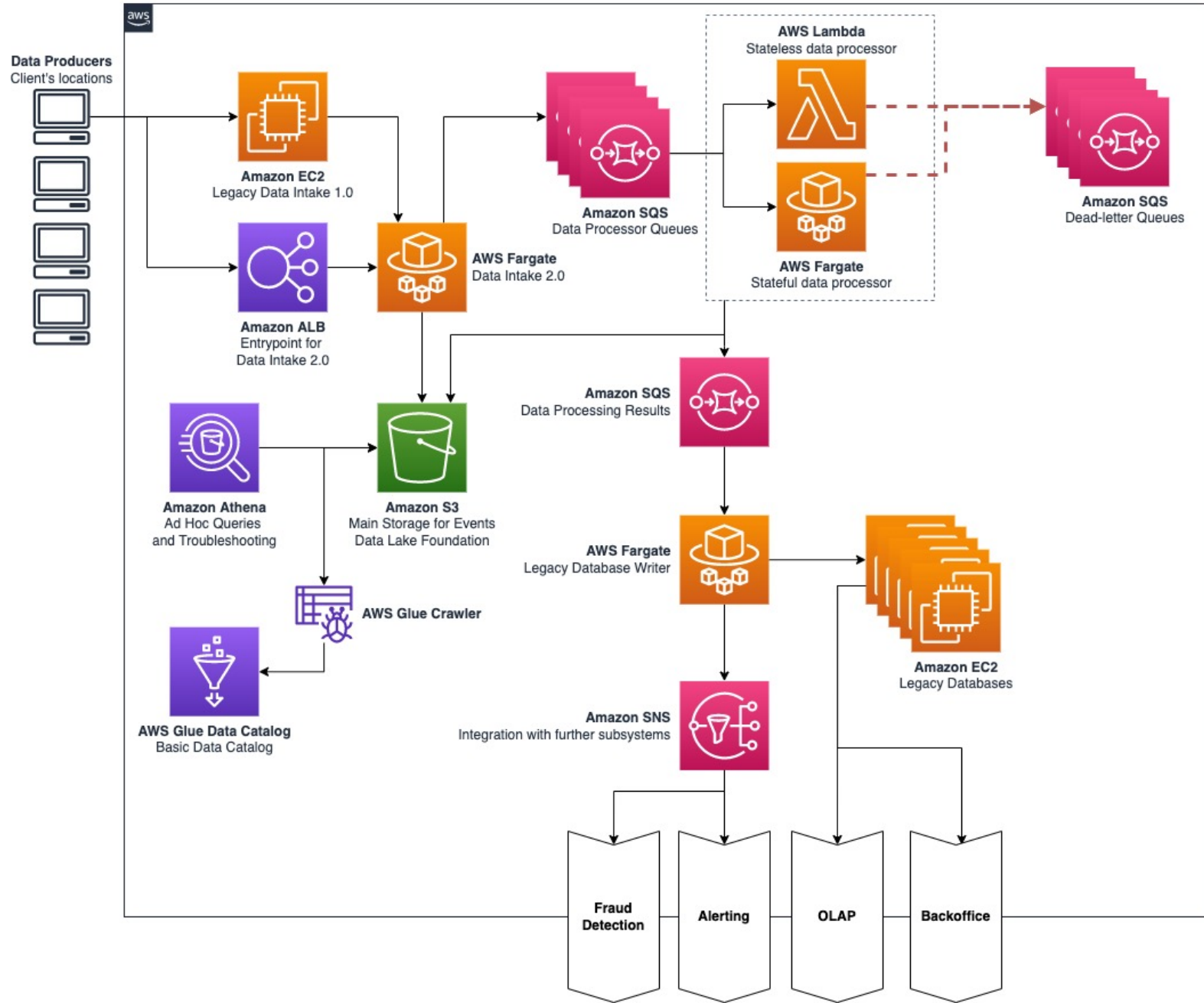
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AWS Operational Responsibility Models



Loss Prevention and Analytics - Retail Networks / FMCG

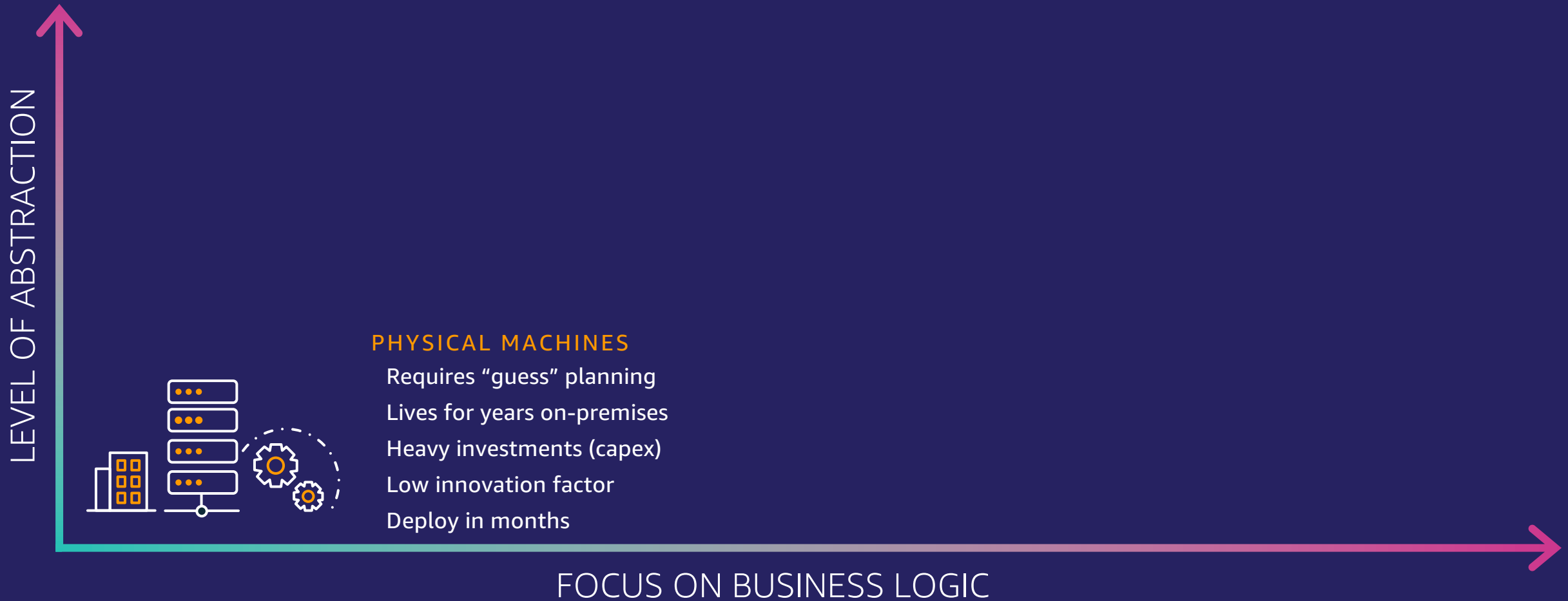
High-level Architecture of a Data Lake and Data Processing Pipelines



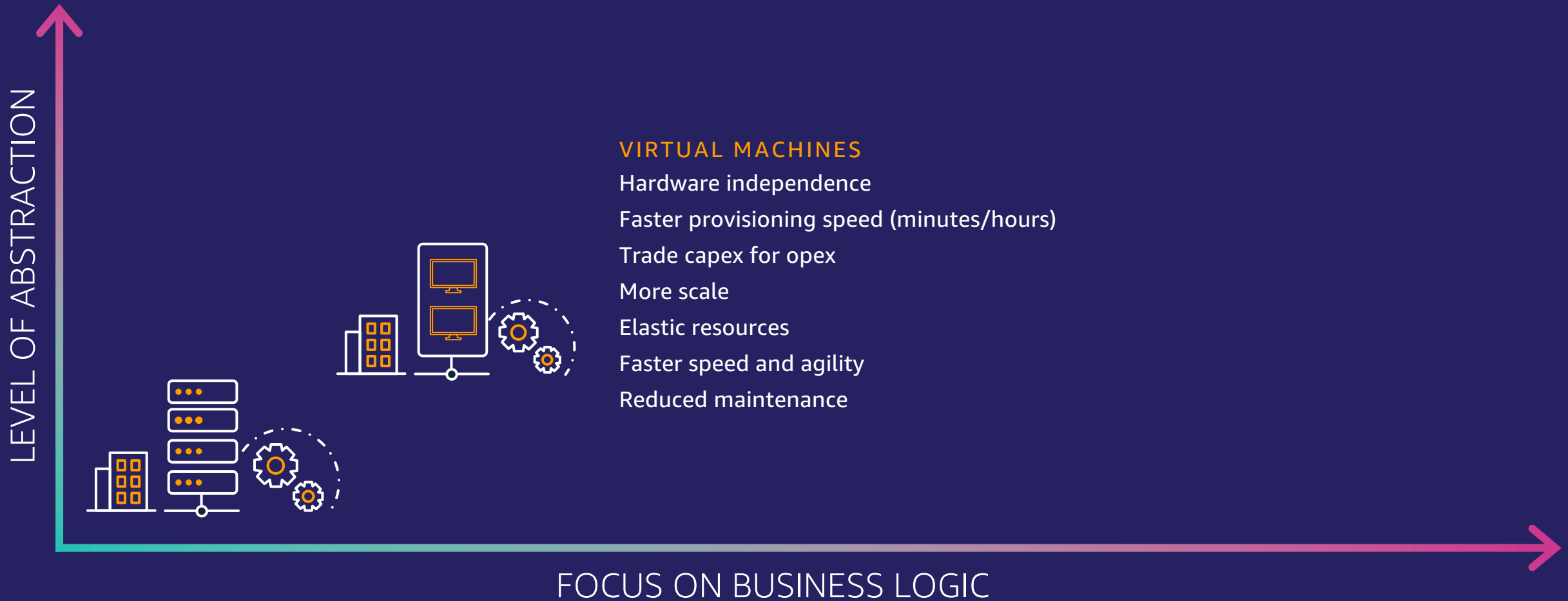


Road to Serverless

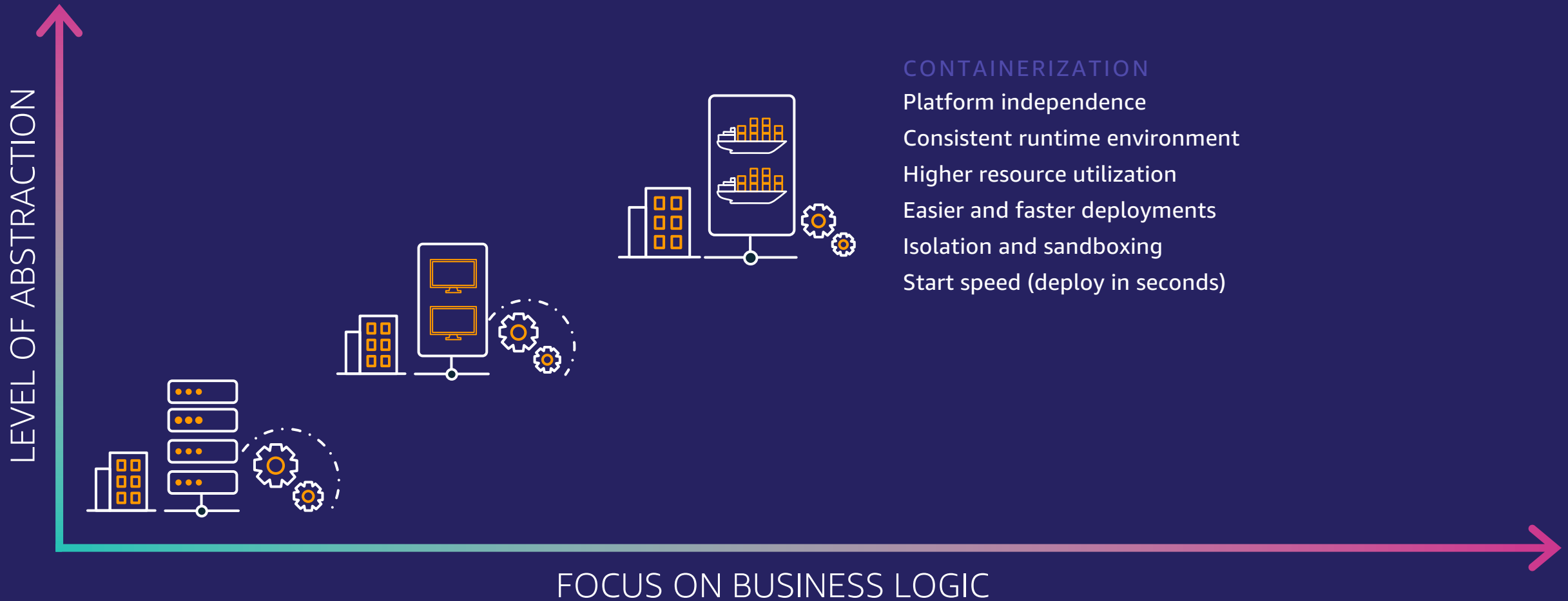
Computing evolution – A paradigm shift



Computing evolution – A paradigm shift



Computing evolution – A paradigm shift



Computing evolution – A paradigm shift

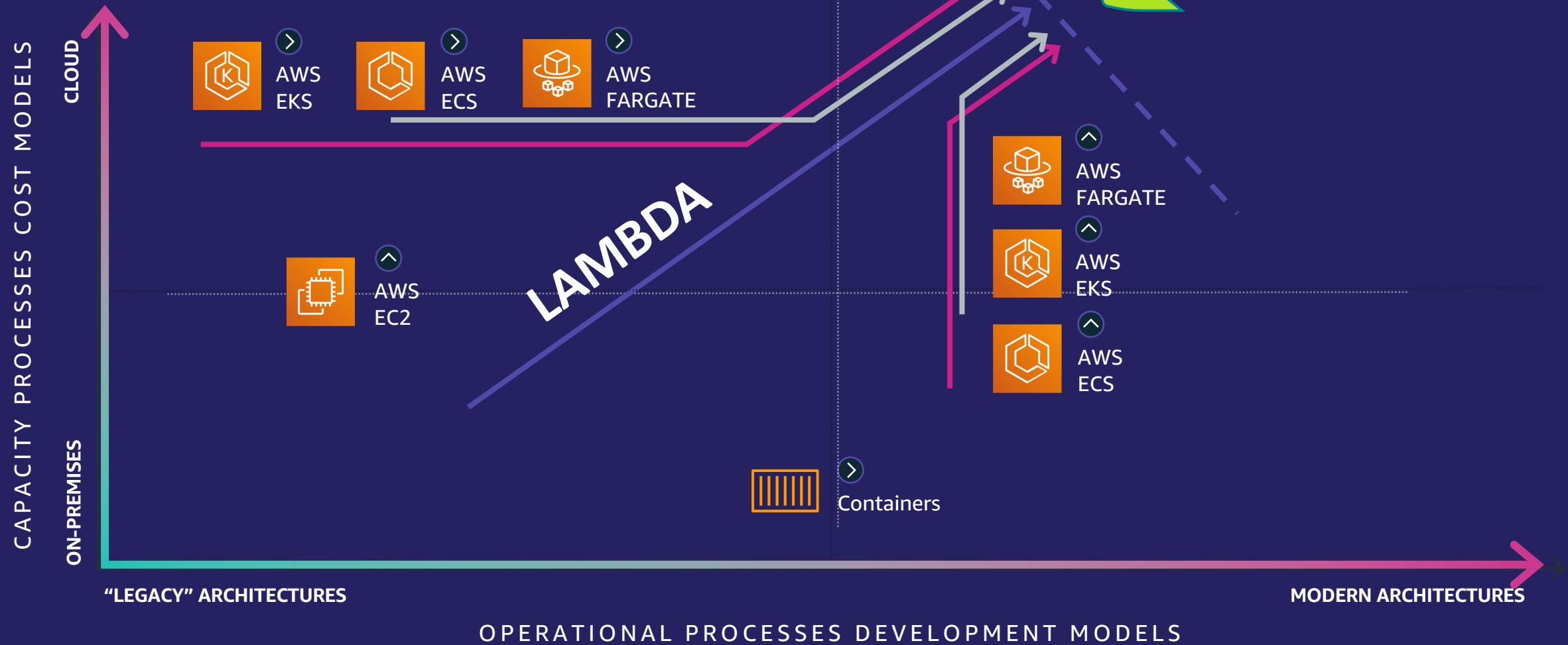


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Leap Frog Adoption



Story Time!
Chapter 4: This is cool!
We need MORE ...

Context

Time-sensitive Business Opportunity

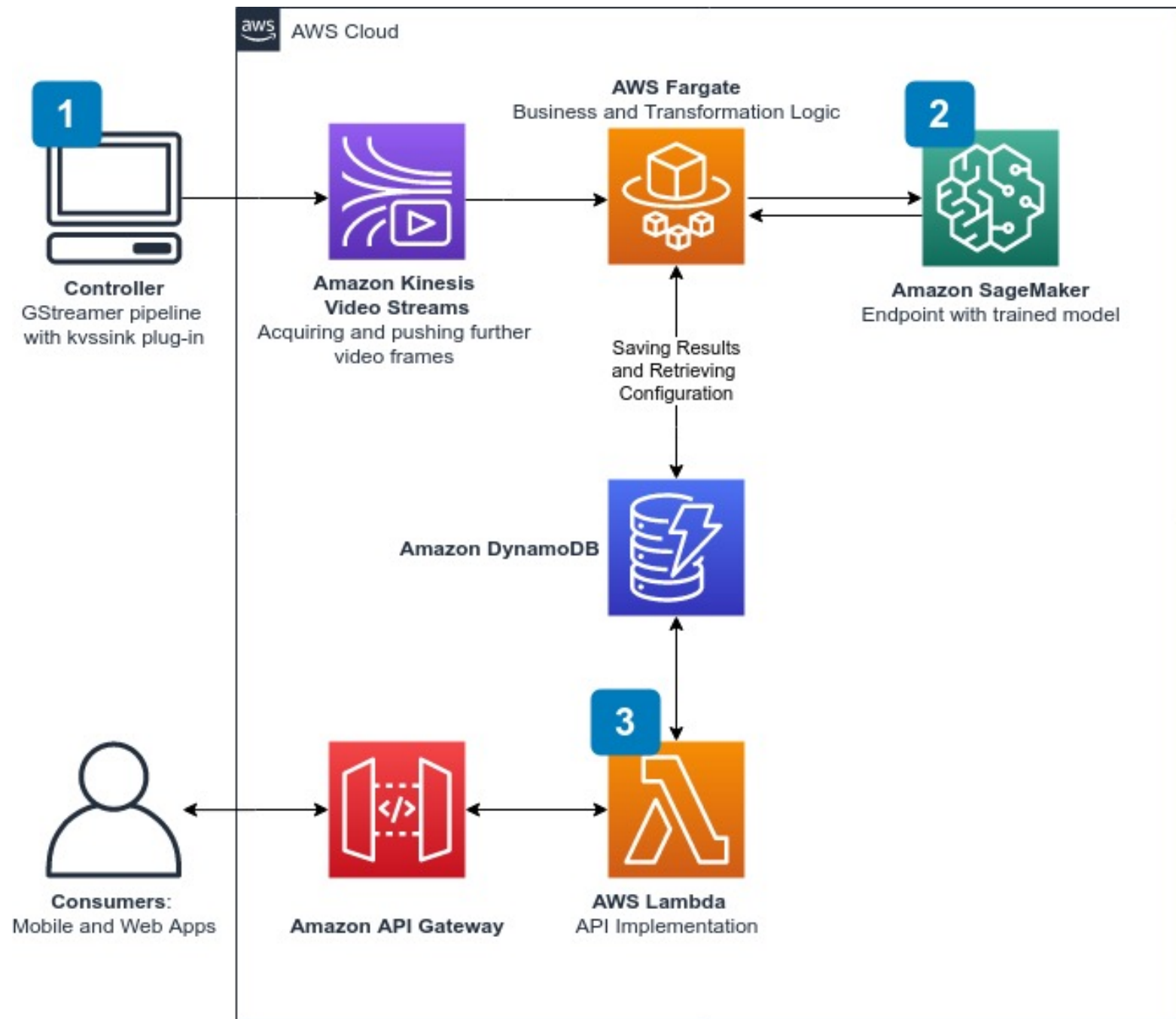
Proof of concept going from research and development phase to production.

Similar *Peopleware* Challenges as Previously

No experience with AWS, not experienced in terms of the *software development life cycle* best practices.

Different Technology Stack

No desktop this time: Java, Python, Video Processing, Computer Vision, and Machine Learning (ML).



Results

Time to Market

Industrialized version of the prototype was developed and deployed in 36 days for 200 locations.

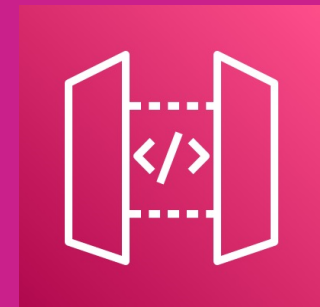
Scalability Out-of-the-Box

After deployment of the initial version team spent 2 additional weeks on reducing technical debt, and right after onboarded 5 000 locations in the next 2 months.

Understandable Pricing Model

Since the day 0, we knew how much it will cost on the operational side, which directly transferred into pricing model of the proposed solution.

Summary



“Internet democratized access to information. Cloud democratized creation.”

Innovation is no longer a function of your budget, but a function of your imagination.”

Gregor Hohpe

Enterprise Strategist, Amazon Web Services (AWS)

“Serverless is a technology optimized for *sleep*.”

Sebastian

Software Engineer, 3rd Tier On-Call Engineer

After 3 months from initial transition to serverless architecture and migrating 65% of traffic there.

“ We engineered our infrastructure using AWS Lambda and serverless to not get paged, to not have to worry about downtime, to not have to worry about uptime. To just not have to worry ... ”

Ethan Kaplan

GM and Chief Digital Officer, Fender

Fender



Survey: eventbox.dev/survey/GIVBO10

Thank you!

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awsmaniac.com

