AWS

SUMMIT

Paris

Miguel Alava | Directeur AWS

Suivez-nous !

@aws_actus

Des milliers d’entreprises, une technologie

Startups françaises

drivy

silkke

PredicSis.ai

ICONOSQUARE

PayPlug

Grandes Entreprises françaises

SOCIETE GENERALE

Schneider Electric

VEOLIA

DANONE

ENGIE

Le cloud

supprime

les contraintes

Par le passé…

Focus *ressources*

Limitée & rigide
Cycles longs
Contrôle centralisé

Maintenant

Focus *business*

Evolutif et flexible
Cycles rapides
Contrôle décentralisé

Des millions de clients actifs dans 190 pays

16 régions, 43 zones de disponibilité

61 baisses de prix depuis 2006

Plus de 1 000 nouveaux services et fonctionnalités en 2016

Plus de 10 000 partenaires AWS (APN)

14 m^{ds} de revenu en rythme annuel

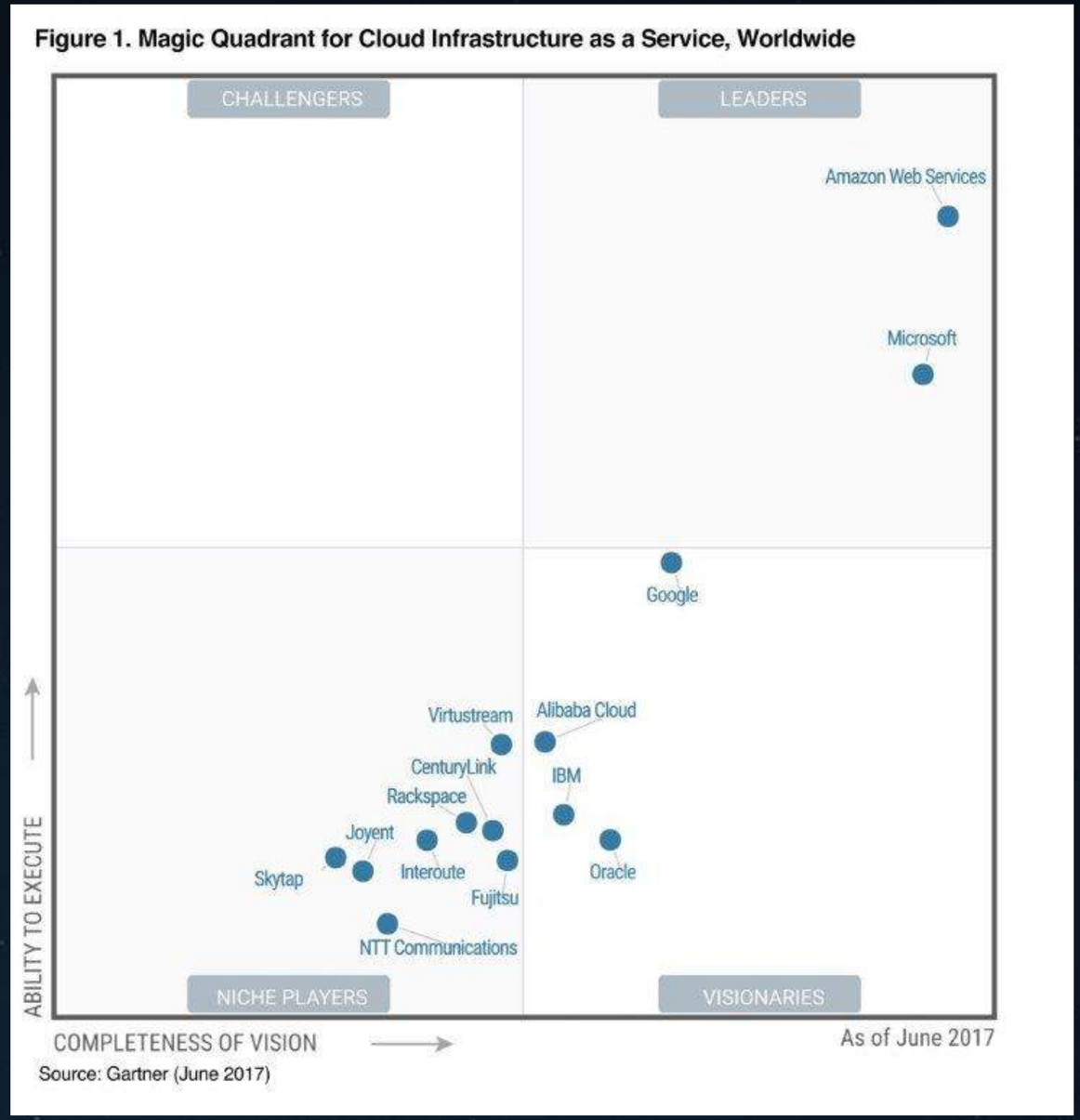
(En dollars, 12 mois glissants, Q1 2017)

43% de croissance annuelle

(Q1 2016 vs Q1 2017)

AWS est positionné comme un Leader dans le *Gartner Magic Quadrant for Cloud Infrastructure as a Service, Worldwide*

AWS est positionné le plus haut dans l’exécution et le plus loin dans la vision parmi les Leaders



*Gartner, Magic Quadrant for Cloud Infrastructure as a Service, Worldwide, Leong, Lydia, Petri, Gregor, Gill, Bob, Dorosh, Mike, August 32016

This graphic was published by Gartner, Inc. as part of a larger research document and should be evaluated in the context of the entire document. The Gartner document is available upon request from AWS : http://www.gartner.com/doc/reprints?id=1-2GZO5PC&ct=150519&st=sb

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En France,
AWS est là pour vous

Des partenariats et du support
pour les grandes entreprises

Des programmes startups
dédiés, le premier mentor's
office à Station F

Des équipes locales depuis 20

Une région AWS en
France en 2017 et déjà
3 points de présence
en France

Un écosystème
riche de partenaires
locaux

Du matériel et des formations &
certifications en Français

Le cloud est incontournable

C’est maintenant

C’est pour tous

9h00 Keynote avec Dr. Werner Vogels

11h15 Sessions

12h00 Pause déjeuner

13h00 Fireside chat avec Andy Jassy

14h00 Sessions

Les équipes AWS sont là pour vous,
nos partenaires aussi…

Platinum

claranet
www.claranet.fr

D2SI

Gold

dynatrace

CLOUDREACH

servicenow

sopra steria

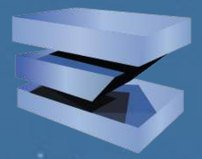
GitHub

cycloid

SUNGARD
AVAILABILITY
SERVICES®

Silver

osones



Edifixio

APPDYNAMICS

DATADOG

Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING

intel

ca
technologies

Bronze

elastic

Prologue

ALERT LOGIC®

colt

ARISTA

SECLUD
AHEAD OF SECURITY

SCALESQUAD
Build for DevOps, Think NoOps

puppet

NBS
System

Secure by nature

ABCSYSTĒMES

Advanced Training Partners

ABCSYSTĒMES

Global Knowledge®

D R W E R N E R V O G E L S

CTO, Amazon.com

With AWS, It Can Feel Like You Have Been Given

SUPER POWERS

FORCE FIELD

Access A Deep Set Of Cloud Security Tools

Networking

Shield

Virtual Private Cloud

Web Application Firewall

Encryption

Key Management Service

CloudHSM

Server-side Encryption

Identity

IAM

SAML Federation

Active Directory Integration

Compliance

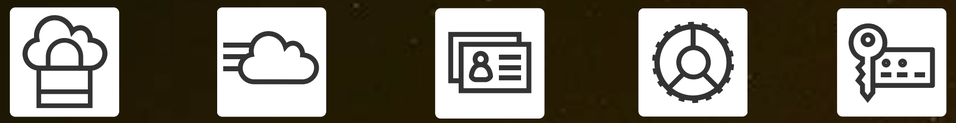
Service Catalog

CloudTrail & Inspector

Config

Protecting Your Customers And Your Business Is Priority #1

Security By Design



CloudHSM CloudTrail IAM Config KMS

Automation Is Key To Protect Your:

Applications
Web Application Firewall

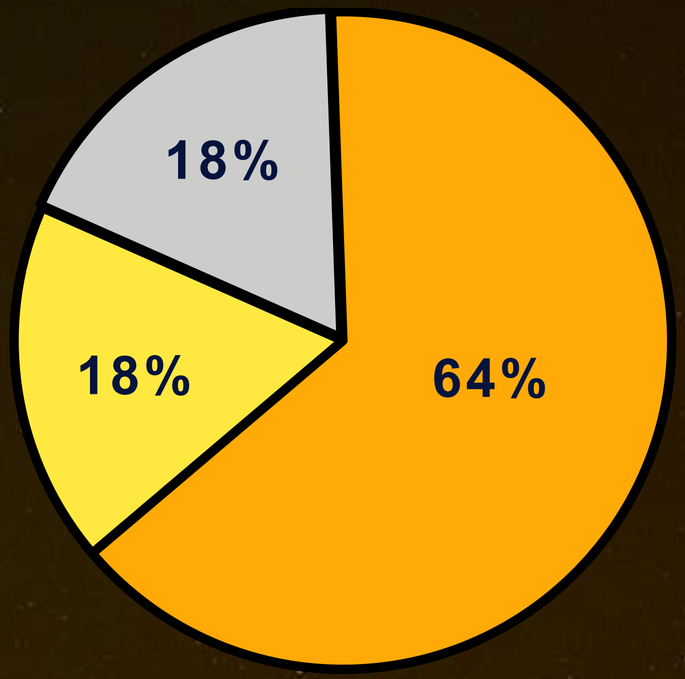
CI/CD Pipeline
Inspector

One Particular Threat Customers Worry About:

Distributed Denial of Service

DDoS Attack Trends

- Volumetric
- State Exhaustion
- Application Layer



Source: Arbor Networks

AWS Shield For Everyone

Web applications running on AWS are already protected by Shield Standard - no action is required

Protection from volumetric and state exhaustion attacks

AWS Shield Advanced

For additional protection against very large and sophisticated attacks

AWS Shield Advanced

Advanced notifications via CloudWatch

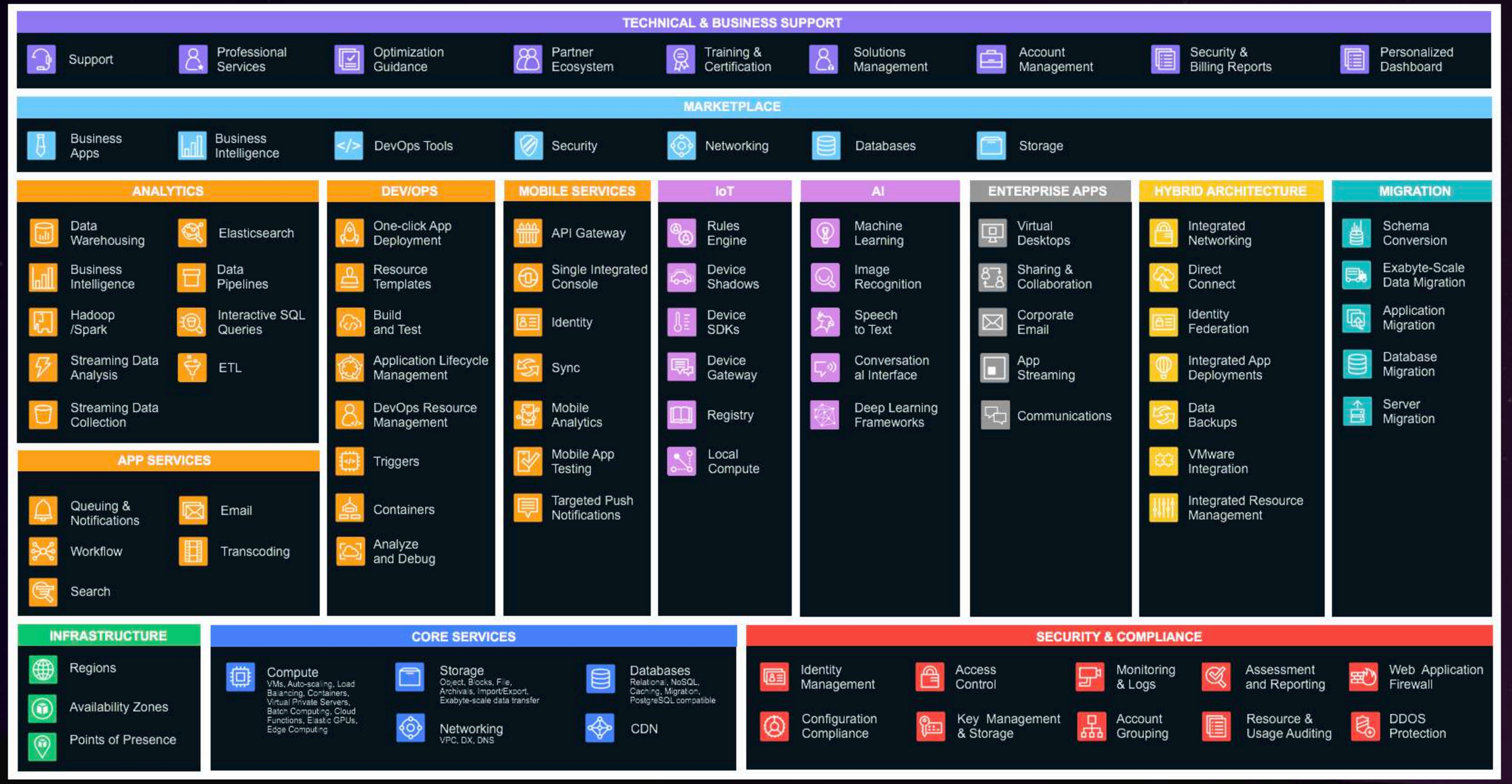
Cost protection on ELB, CloudFront, Route 53

24/7 DDoS response team and support

WAF included at no additional cost

SUPERSONIC SPEED

Most Robust, Fully-Featured Technology Infrastructure Platform



Broad Services With Deep Functionality

Compute

Burstable (T2)

General Purpose (M4)

Dense Storage (D2)

Memory Intensive (R4)

Large Memory (X1)

High I/O (I3)

Compute Intensive (C5)

Graphics Intensive (G2)

General Purpose GPU (P2)

FPGAs (F1)

Simple VPS (Lightsail)

Databases

RDS For MySQL

RDS For PostgreSQL

RDS For MariaDB

RDS For Oracle

RDS For SQL Server

RDS For Aurora

Heterogeneous migrations with no downtime

Security & Access

Fully-managed DDoS Protection

WAF with instant threat mitigation

Dedicated HSMs

Graphic Policy Simulator

Identify, Location, and Time Policies

Individual API Call Policies

Key Usage Auditing

Network Availability

Availability Zone architecture for high operational resiliency

Synchronous data replication between AZs within a region

Visibility into real-time network performance

Broad IPv6 support

Multiple NICs per VM

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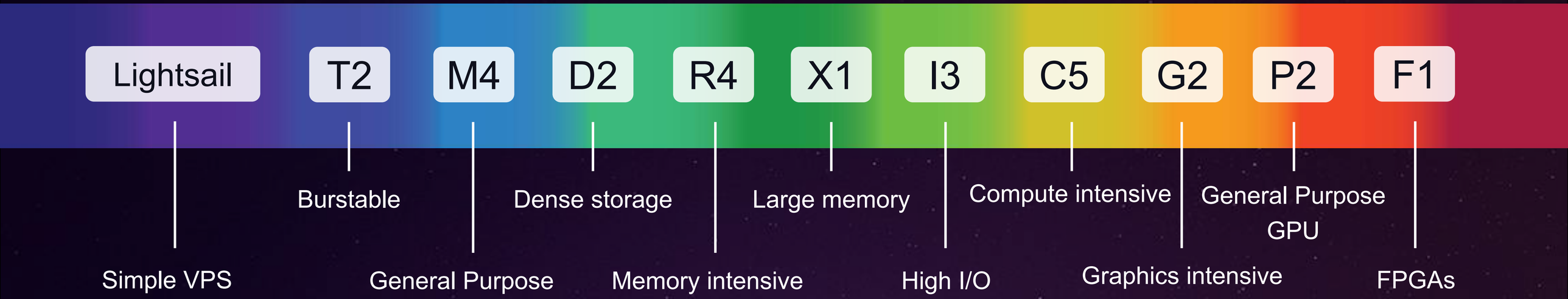
A Broad Spectrum Of Compute Capabilities In The AWS Cloud



Elastic GPUs On EC2

Generally available

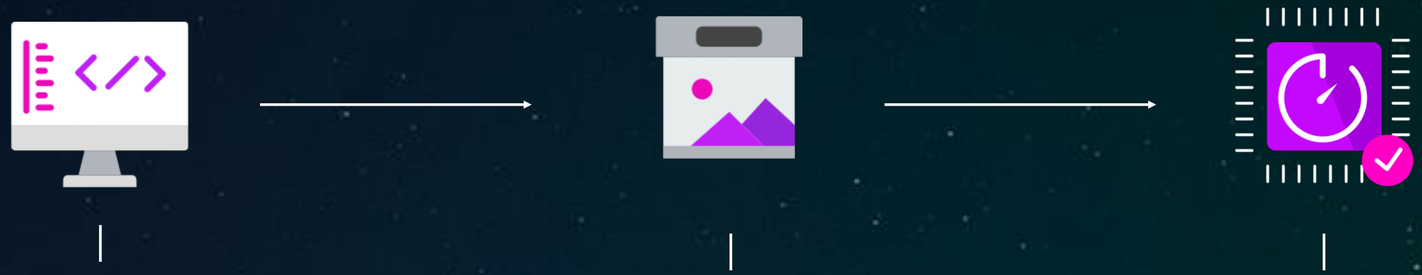
F1 Instances

New instance family with customizable field programmable gate arrays

Run your custom logic on EC2

F1 Instances

Bringing hardware acceleration to all



Develop, simulate, debug, and compile your code

Package as FPGA images

F1 Instance
With your custom logic running on an FPGA

FPGA images available in AWS Marketplace

Example Use Cases For F1 Instances

Genomics research

Financial analytics

Real time video processing

Big data search and analytics

Edouard Deslandes

Fondateur et CEO
silkke
ed@silkke.com

silkke
Grâce aux Avatars 3D réels
HUMANISONS LE VIRTUEL

QUI SOMMES NOUS ?

apparition des plateformes Web 3D temps réel
> UNITY 3D en natif sur Chrome

2016

l'immersif VR/AR appliqué à tous les usages

silkke

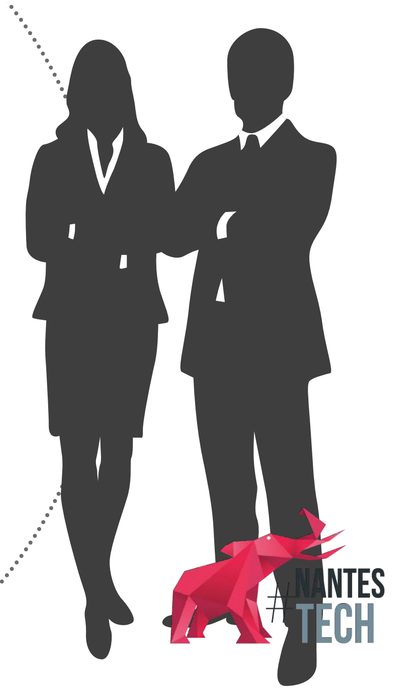
créé en 2011
2 bureaux : Nantes / Paris
2 usines : Angers / Dubaï
5 ans de R&D
4 prototypes
15 personnes actuellement
30 personnes fin 2017

des périphériques VR/AR
de plus en plus performants

une pléthore d'applications
3D existantes

tous les marchés impactés
par l'immersif

TOUTE
APPLICATION
IMMERSIVE VR/AR
EST VIDE
D'HUMANITÉ



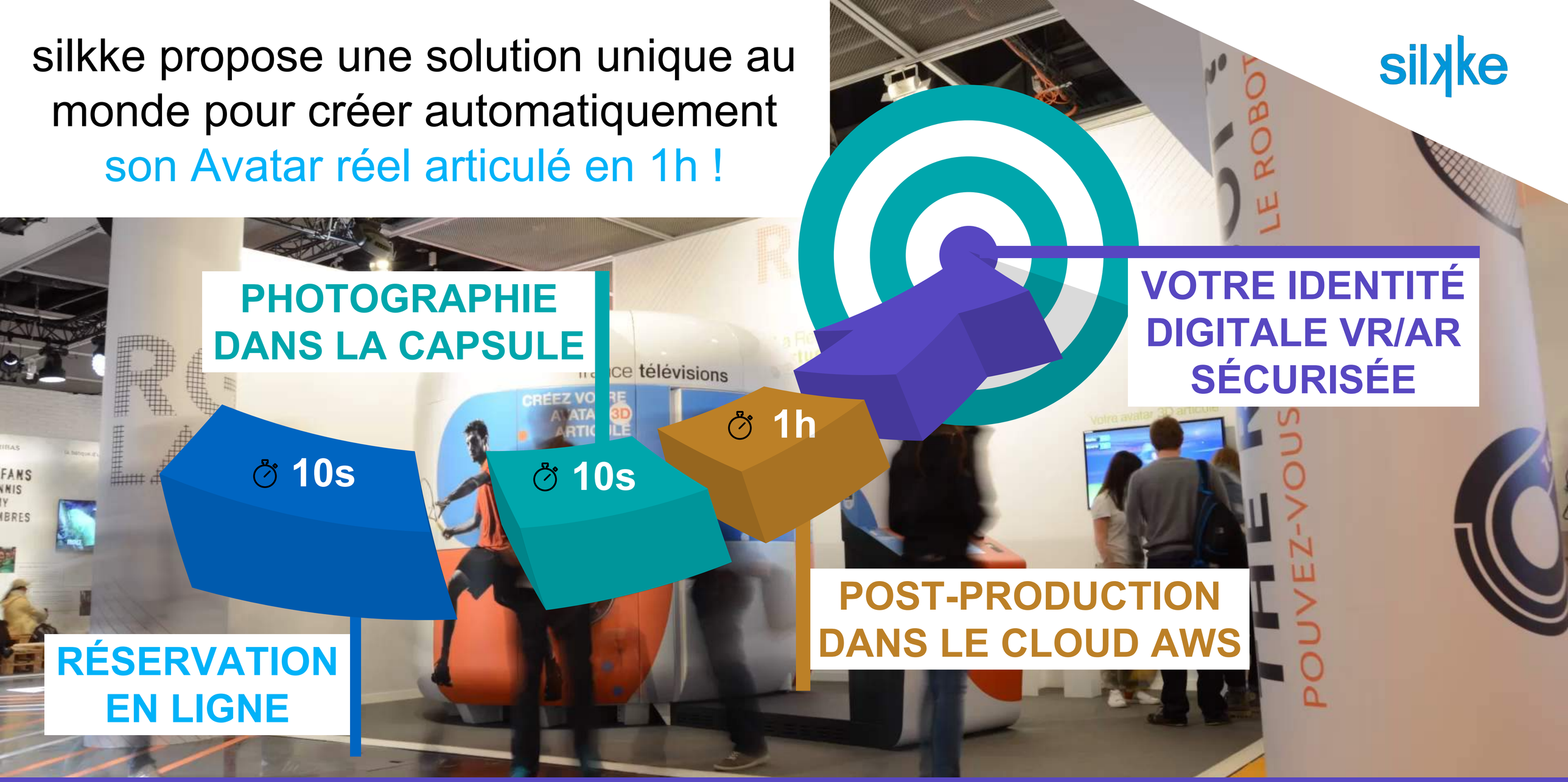
silkke

à vos marques…

TÉLÉPORTATION

silkke propose une solution unique au monde pour créer automatiquement son Avatar réel articulé en 1h !

silkke



iTunes Google play htc VIVE oculus unity PlayStation.VR Microsoft HoloLens

utilisation de la capsule

UN AVATAR PRÉSIDENT

VIDEO #1 - MACRON

Dubaï

Barcelone

Milan

serveur stockage
photographie

serveurs
post-production

amazon
web services

TMP
point de
réception

EC2
Manipulator

serveur
stockage
Avatar

API ASKK

silkke

silkke

démo

LEÇON DE TENNIS

VIDEO #2 - TENNIS

démo

CHAT VOCAL & IA

VIDEO #3 - CHAT

Alexa…

TÉLÉPORTE MOI !

09:45
3
VR teleportation
9:45 AM, June 27
With Edouard and Baptiste

VIDEO #4 - STORE

amazon
web services

INVISIBILITY

SERVERLESS

No server is easier to manage than no server at all.

What Do Serverless Applications Look Like?

No provisioning or management

Scales with usage

Never pay for idle

Fault tolerance built in

AWS Has The Complete Container Platform To Deliver And Operate Serverless Applications

DEVELOPER TOOLS

SAM
Application modeling framework

CodePipeline
CI/CD

CodeBuild
Build and test

CloudFormation
Templates

X-Ray
Diagnostics

CloudWatch
Monitoring

SDKs
IDE Plugins
SDKs and tools

Serverless Framework
Sparta Apex, Loggly, Splunk, SumoLogic etc.
Third-party

APPLICATION SERVICES

Step Functions
State management

SNS
Notifications

SQS
Queues

Kinesis
Streaming analytics

API Gateway
API proxy

CORE BUILDING BLOCKS

Lambda
Compute

S3
Storage

DynamoDB
Database

VPC
Networking

IAM
Security

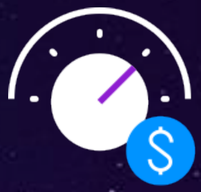
AWS Lambda

Serverless compute

Run code without thinking about servers

Integrated with 12 services

Run your code based on API calls or triggers from AWS services



Pay only for the compute time you consume

Customer Success With AWS Lambda

The Pains Of Coordination

Scaling out

Keeping state

Error handling

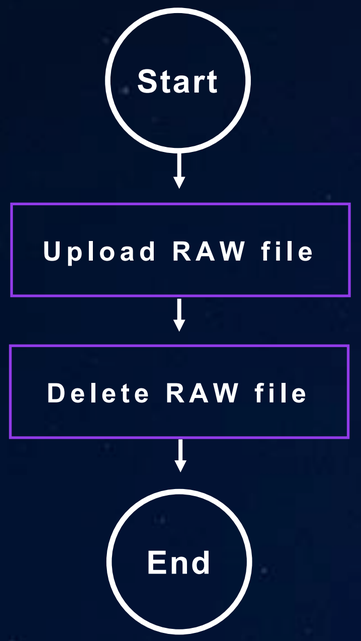
Operating

Auditing

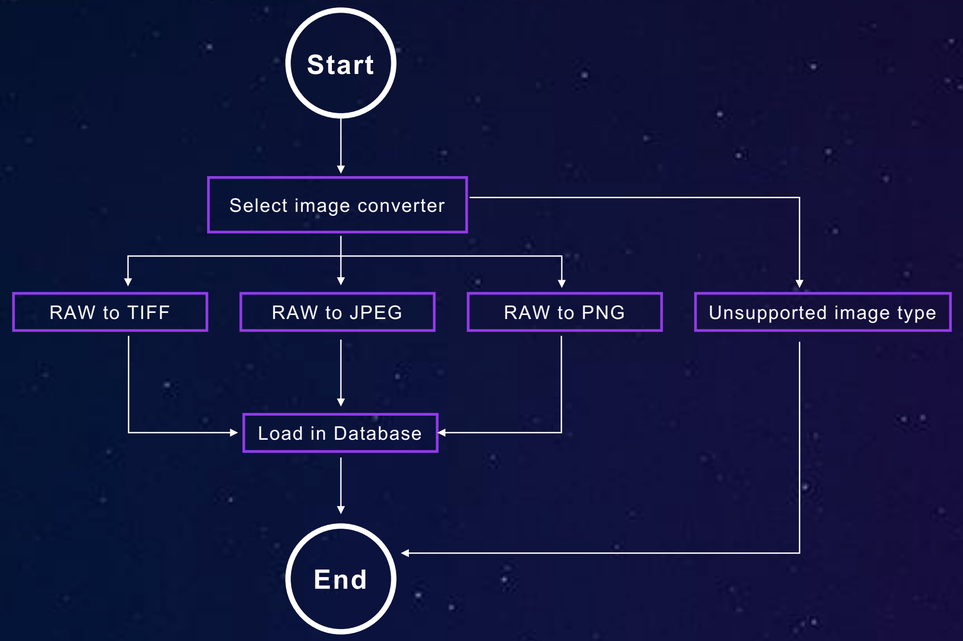
AWS Step Functions

Coordinate the components of distributed applications using visual workflows

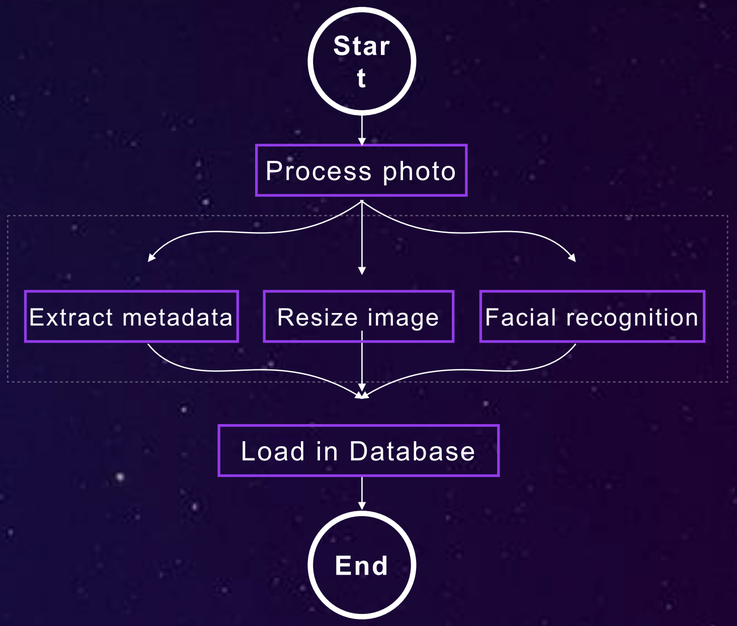
Sequential steps



Parallel steps



Branching steps



AWS X-Ray

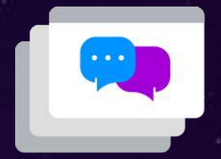
Analyze and debug distributed applications in production

Distributed tracing

See end-to-end view of requests

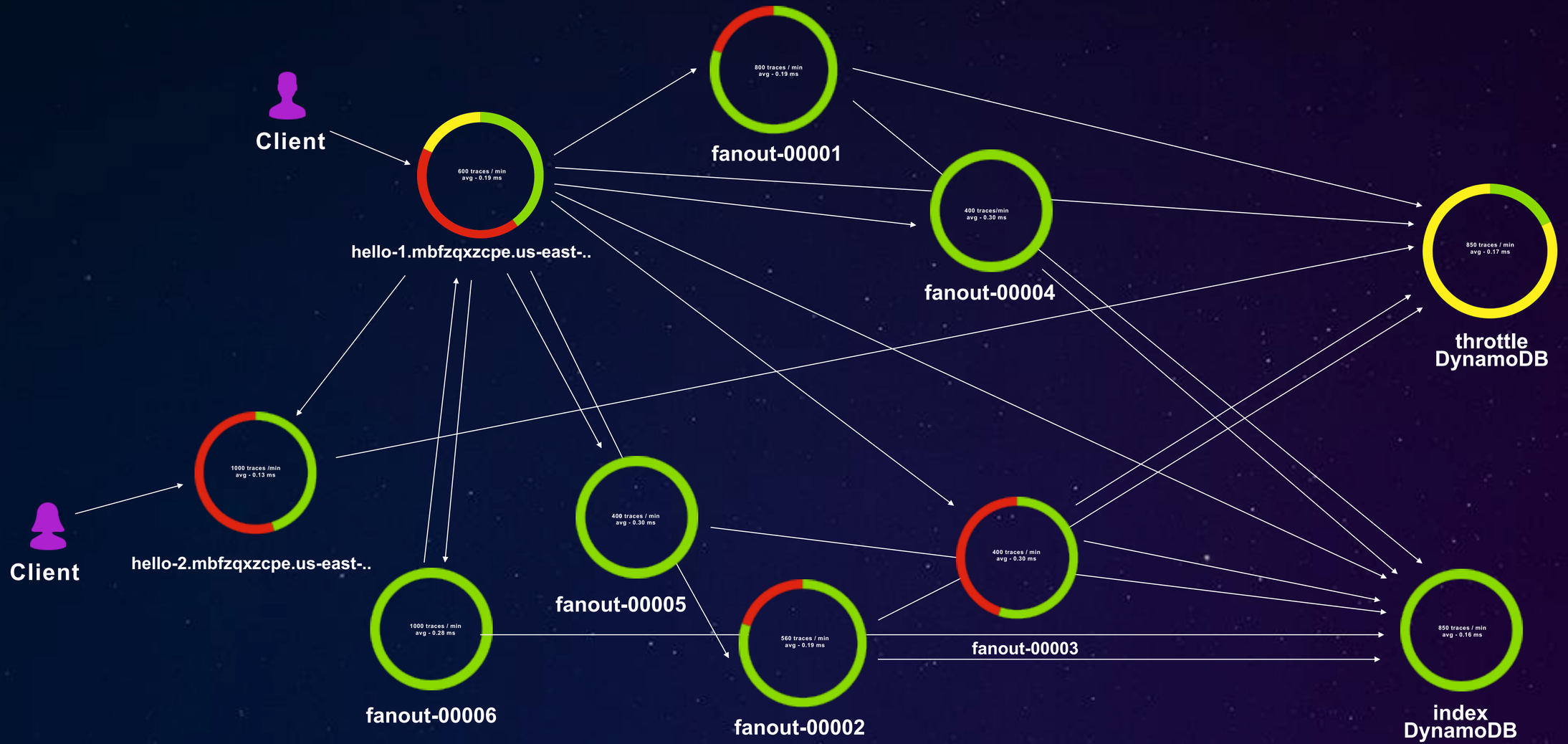
View service map

Discover root causes of issues



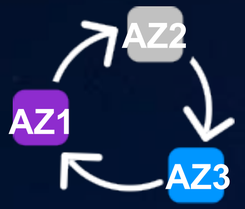
Supports apps running on EC2, ECS, and Elastic Beanstalk

AWS X-Ray


Client
600 traces / min
avg - 0.19 ms
hello-1.mbfzqxzcpe.us-east-..
800 traces / min
avg - 0.19 ms
fanout-00001
400 traces/min
avg - 0.30 ms
fanout-00004
850 traces / min
avg - 0.17 ms
throttle
DynamoDB
1000 traces /min
avg - 0.13 ms
hello-2.mbfzqxzcpe.us-east-..
Client
400 traces / min
avg - 0.30 ms
fanout-00005
400 traces / min
avg - 0.30 ms
1000 traces / min
avg - 0.28 ms
fanout-00006
560 traces / min
avg - 0.19 ms
fanout-00002
fanout-00003
850 traces / min
avg - 0.16 ms
index
DynamoDB

Amazon DynamoDB

A database for your serverless applications



Highly available

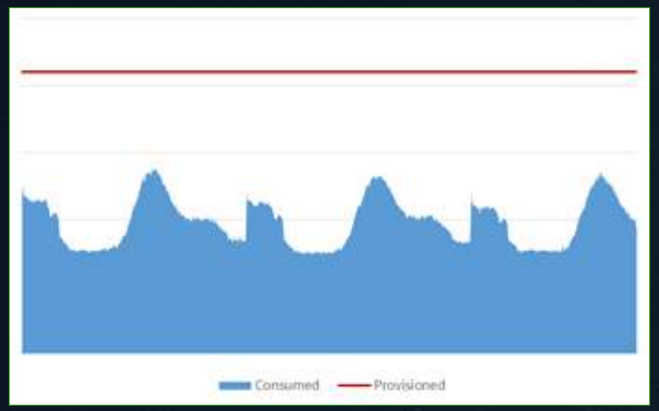
Consistent performance

Proven scale

VPC Endpoints

Amazon DynamoDB Continuous Innovation

DynamoDB Auto Scaling



DynamoDB Time-To-Live

TTL attribute

ID	Name	Size	Expiry
1234	A	100	1456702305
2222	B	240	1456702400
3423	C	150	1459207905

Reducing Response Time To Microseconds

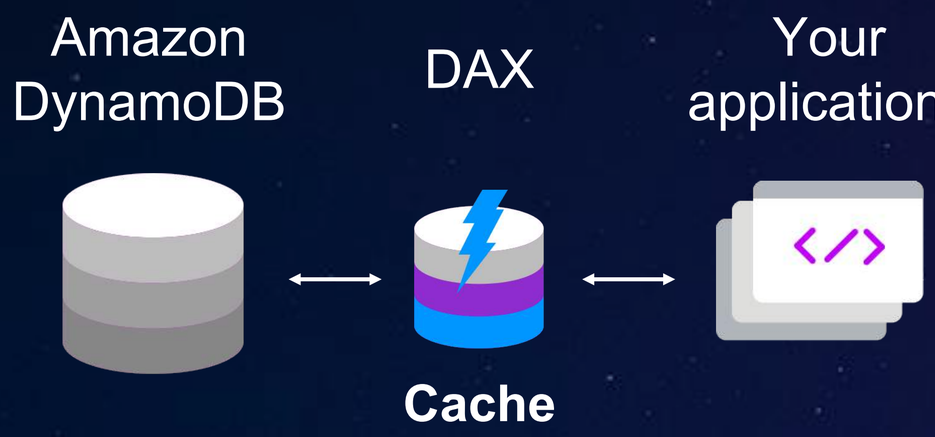
Deploy and operate caches

Specialized skills

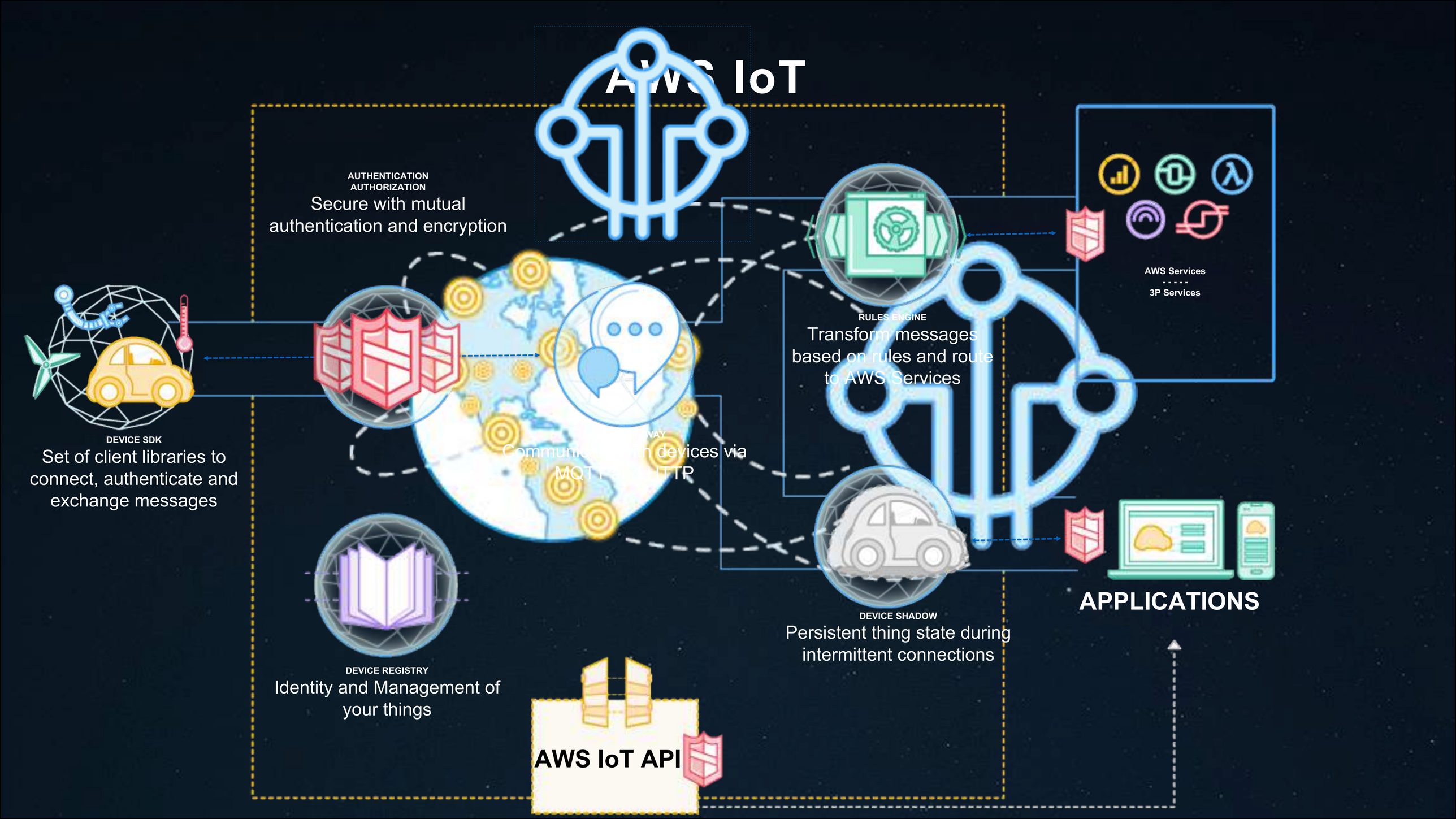
Complex application logic

Scale and availability

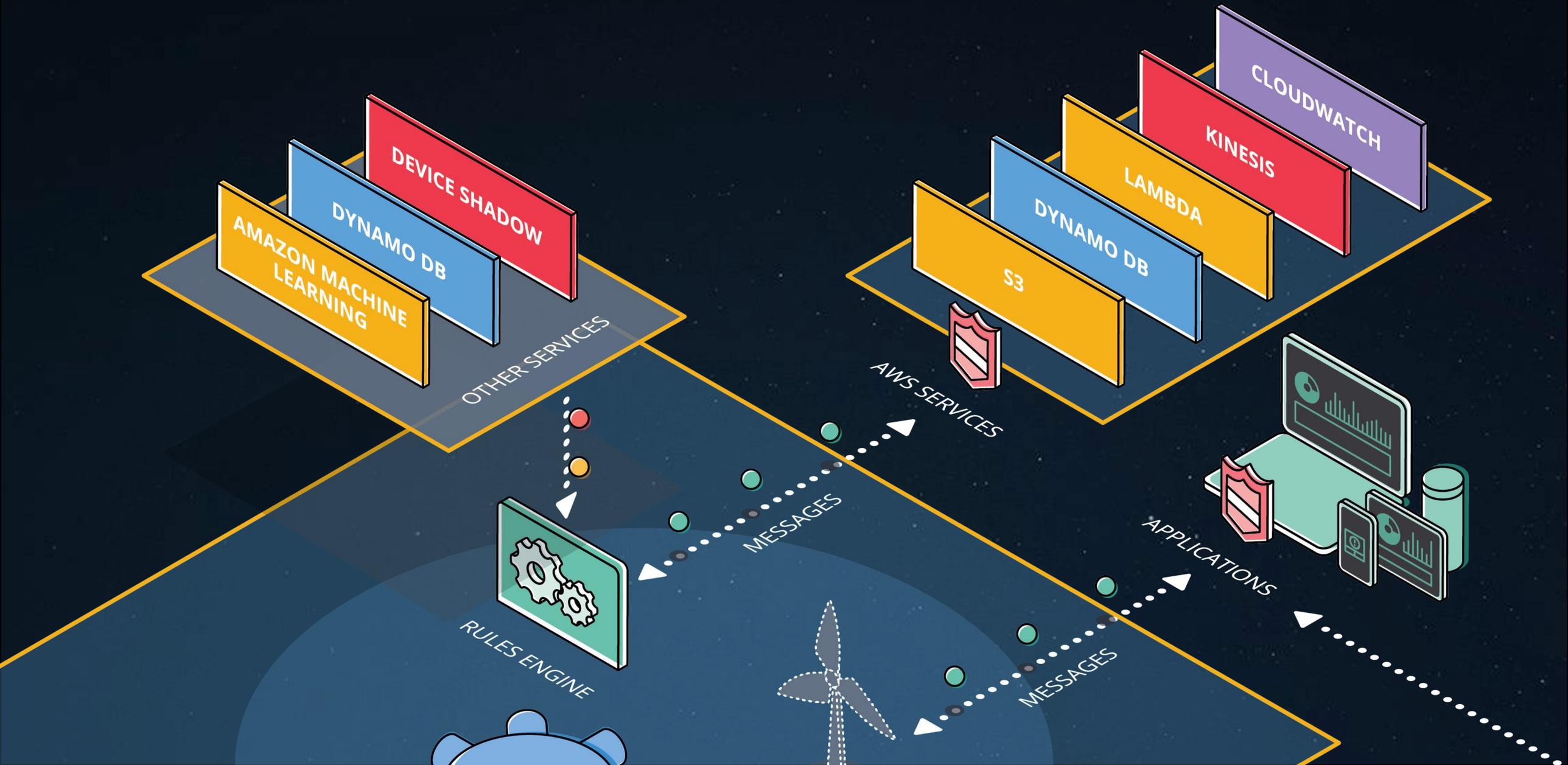
Amazon DynamoDB Accelerator (DAX): 10x Faster



- Microseconds response time
- Millions of requests per second
- Fully managed, highly available
- No need to rewrite your applications


AWS IoT
AUTHENTICATION
AUTHORIZATION
Secure with mutual authentication and encryption
DEVICE SDK
Set of client libraries to connect, authenticate and exchange messages
RULES ENGINE
Transform messages based on rules and route to AWS Services
AWS Services
3P Services
DEVICE REGISTRY
Identity and Management of your things
DEVICE SHADOW
Persistent thing state during intermittent connections
APPLICATIONS
AWS IoT API

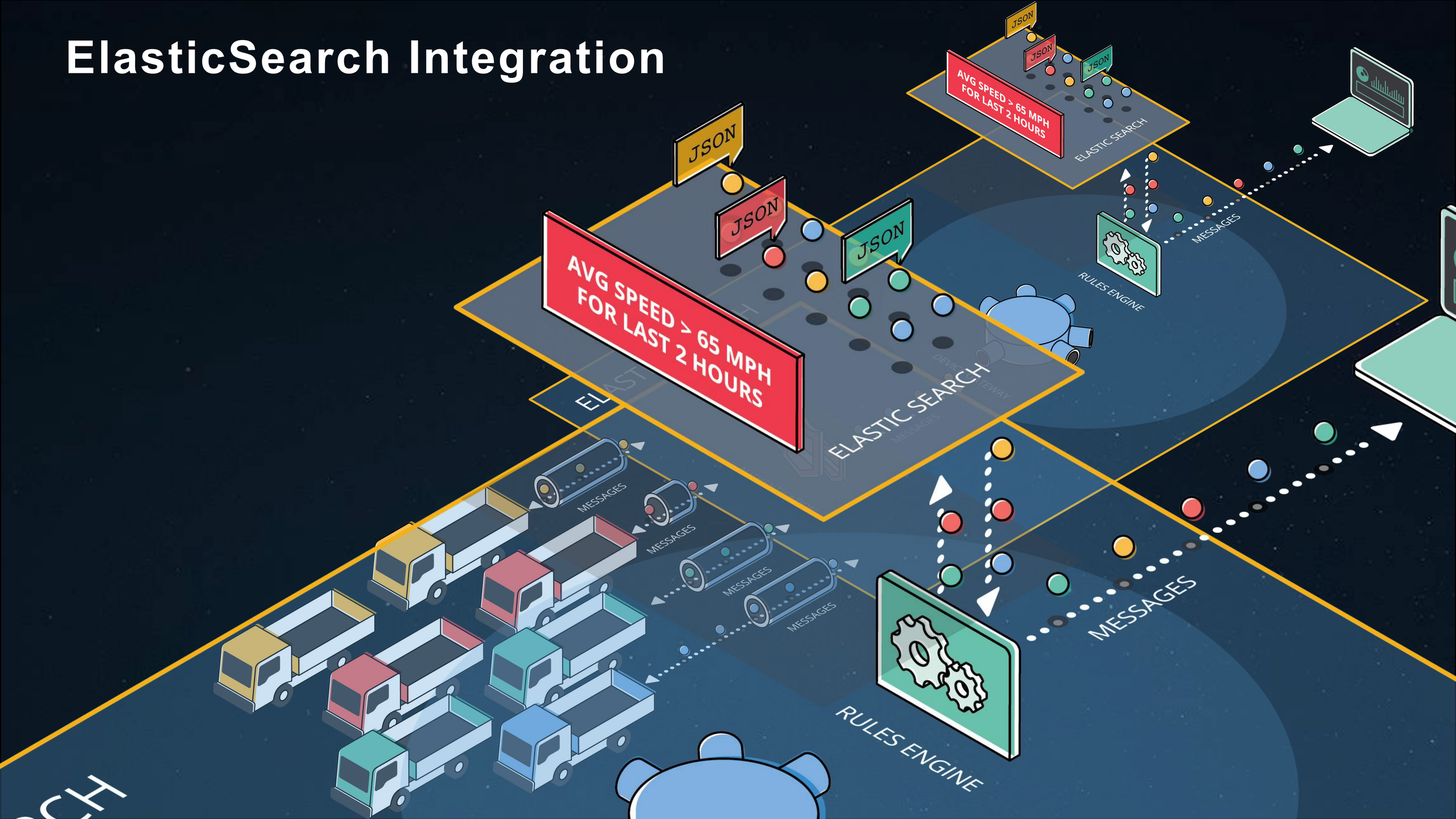
Rules engine



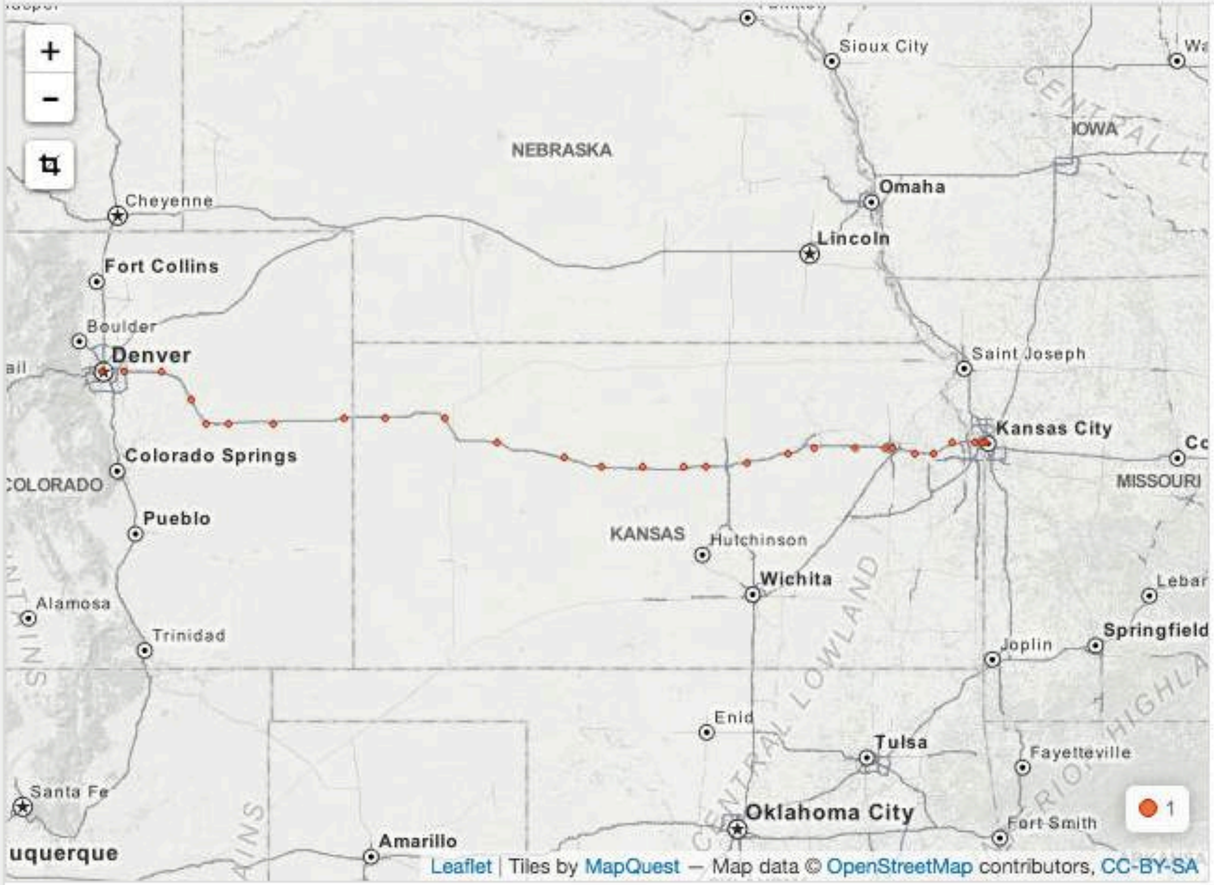
Rules engine: Move messages to other systems

- Invoke a Lambda function
- Put object in an S3 bucket
- Insert, update a DynamoDB table
- Publish to an SNS topic or endpoint
- Publish to a Amazon Kinesis stream
- Publish to Firehose
- Republish to AWS IoT
- Capture a CloudWatch metric or change an alarm
- Publish to Amazon ES
- Write to an SQS queue

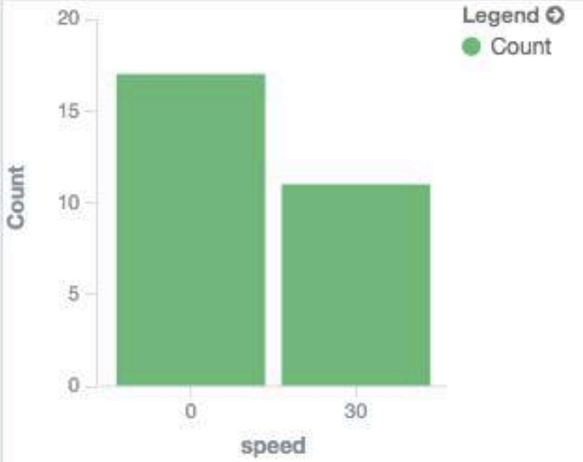
ElasticSearch Integration



Map

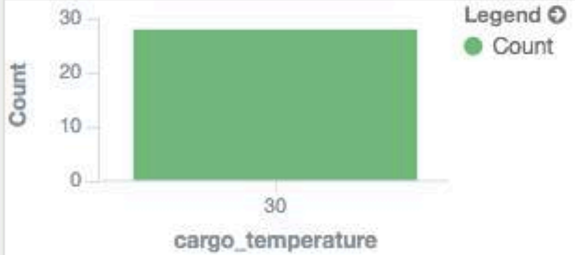


Speed

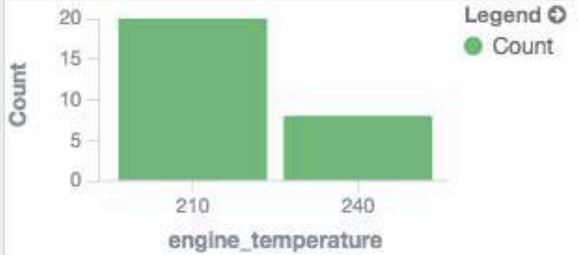


Oil Pressure

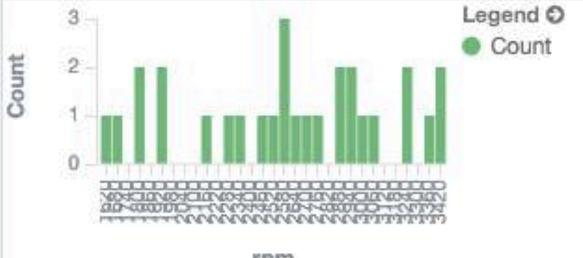
Cargo Temperature

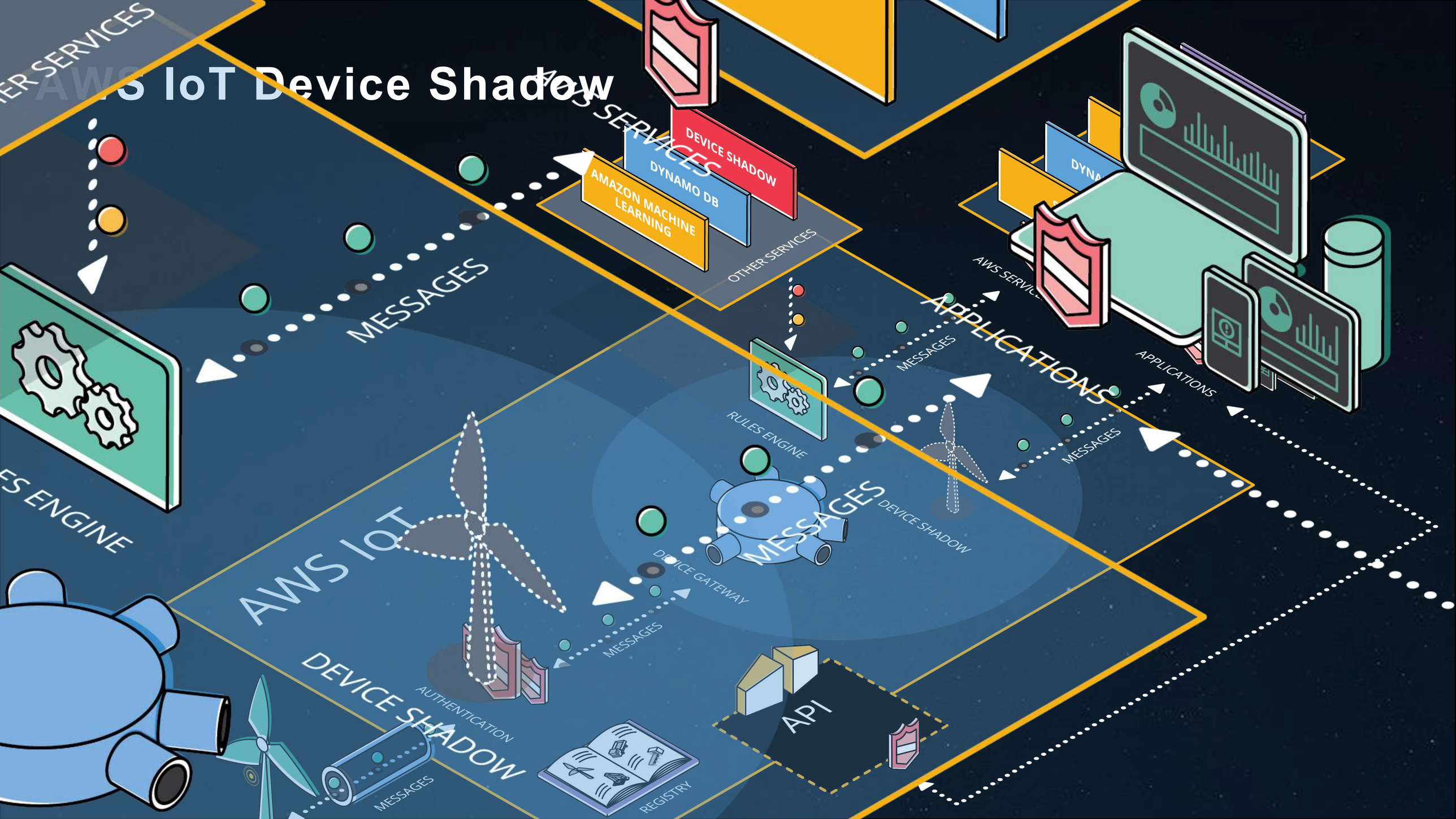


Engine Temperature

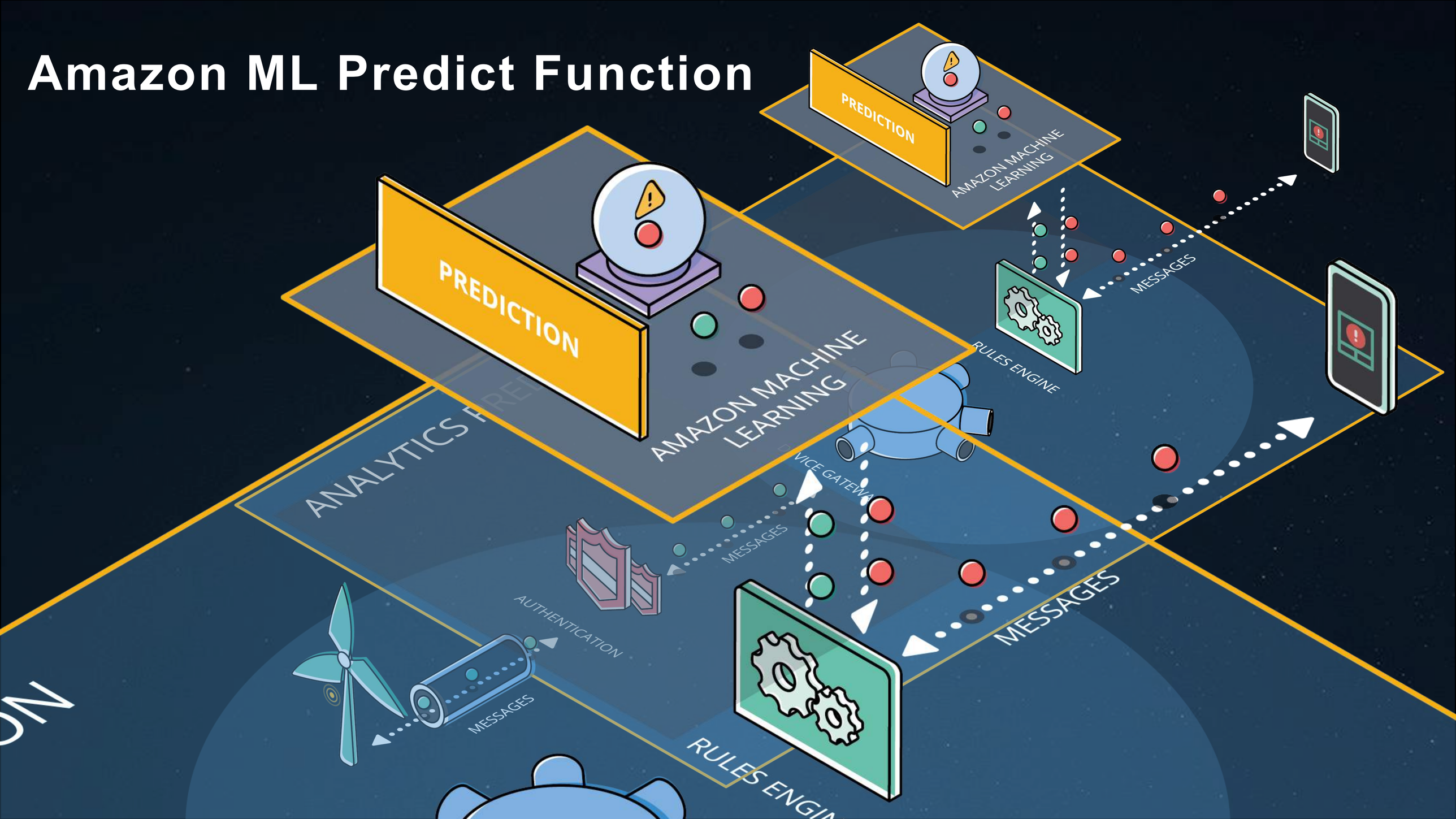


RPM



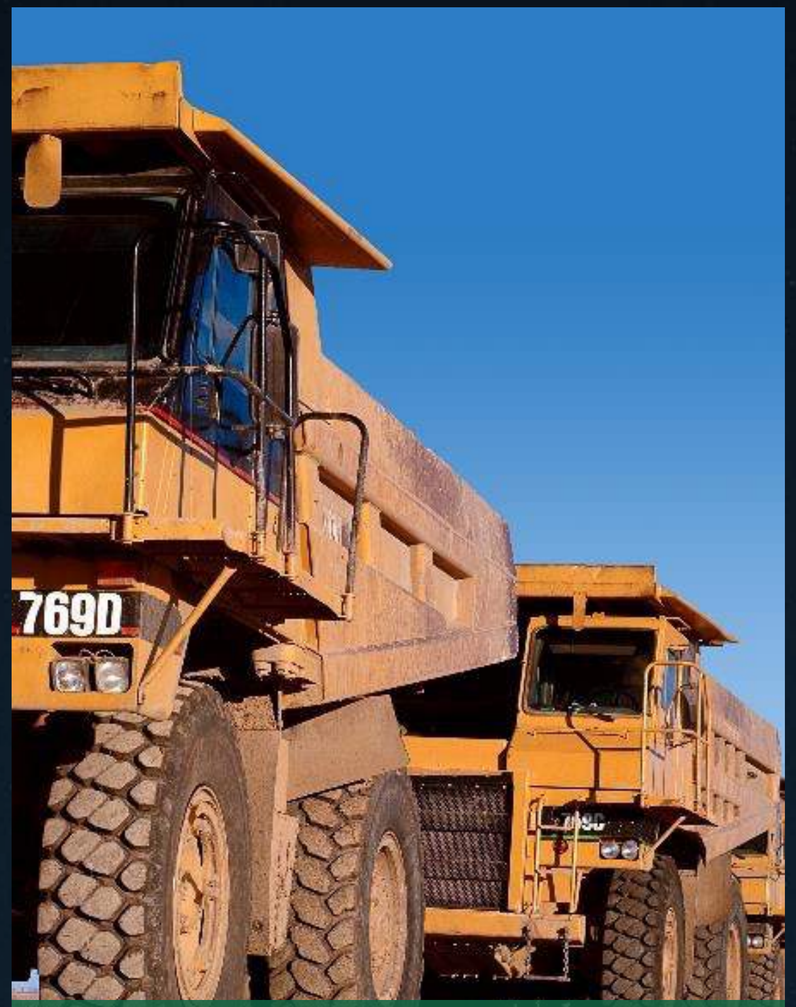

AWS IoT Device Shadow
AWS SERVICES
DEVICE SHADOW
DYNAMO DB
AMAZON MACHINE LEARNING
OTHER SERVICES
MESSAGES
APPLICATIONS
RULES ENGINE
AWS IoT
DEVICE GATEWAY
DEVICE SHADOW
AUTHENTICATION
API
REGISTRY

Amazon ML Predict Function



Most machine data never reaches the cloud

Medical equipment

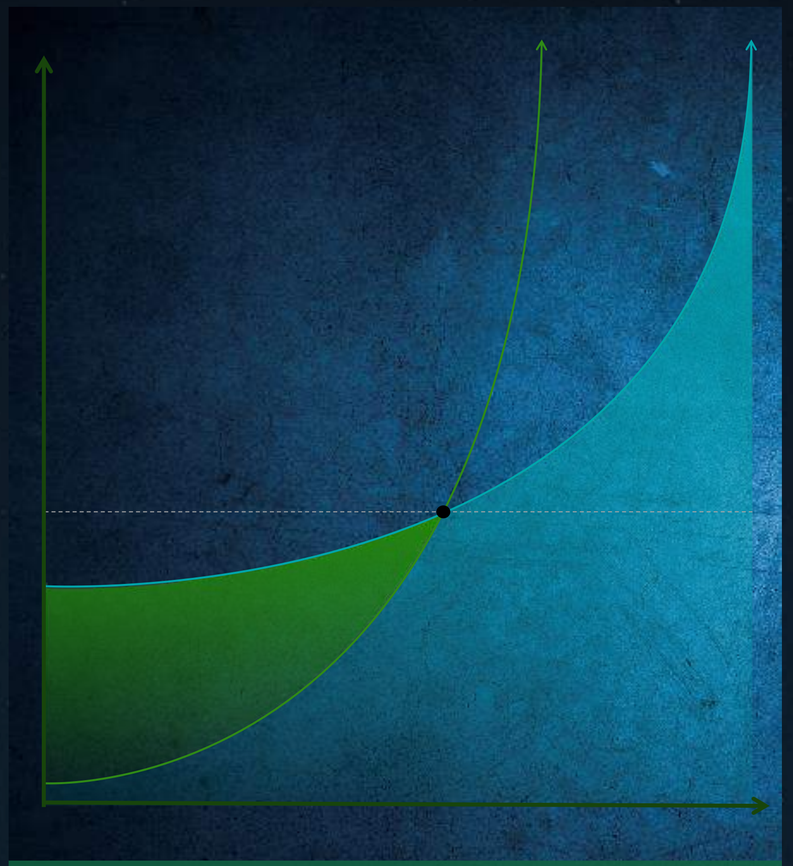


Industrial machinery

Extreme environments

Why this problem isn’t going away

Law of physics



Law of economics

Law of the land

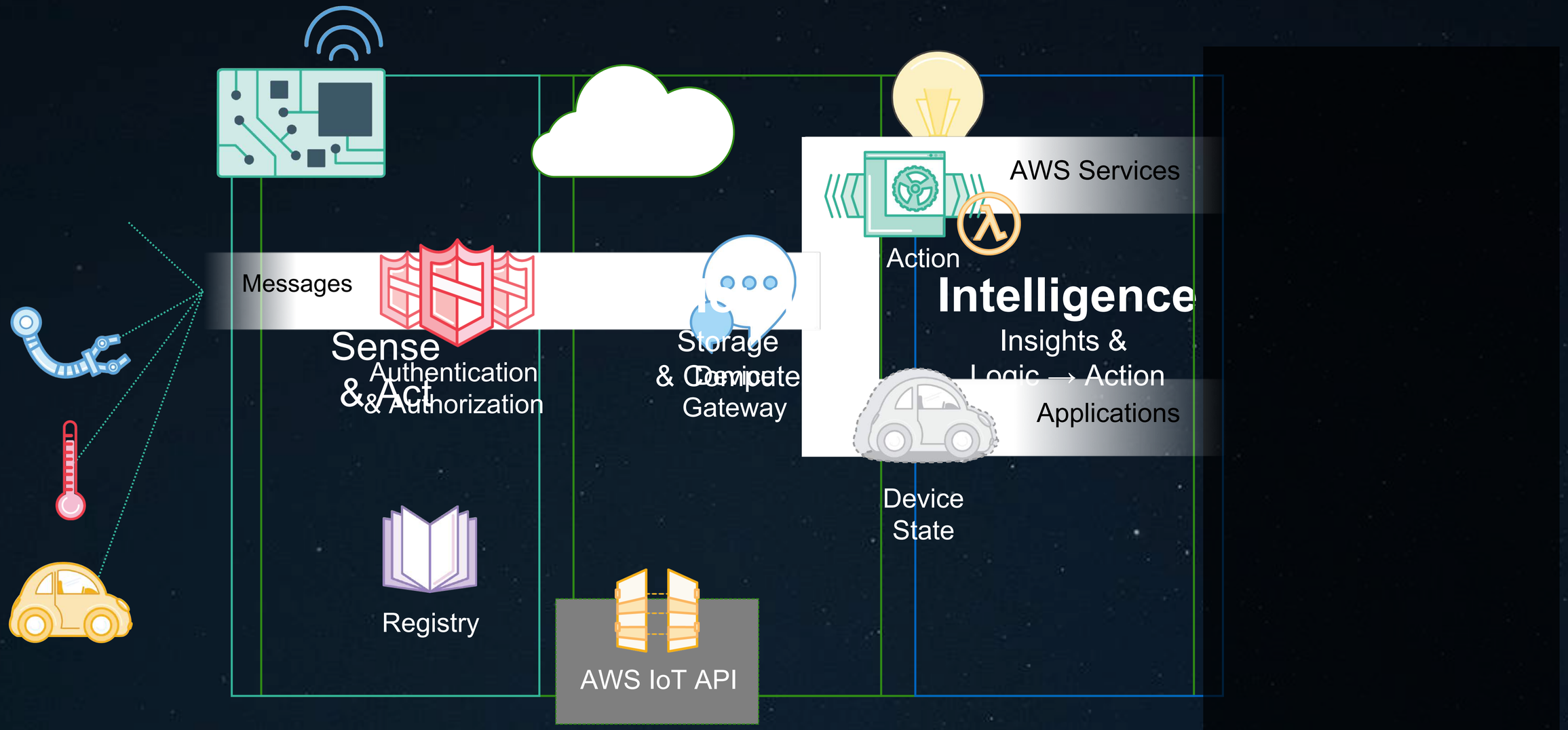
Three pillars of IoT

Things
Sense
& Act

Cloud
Storage
& Compute

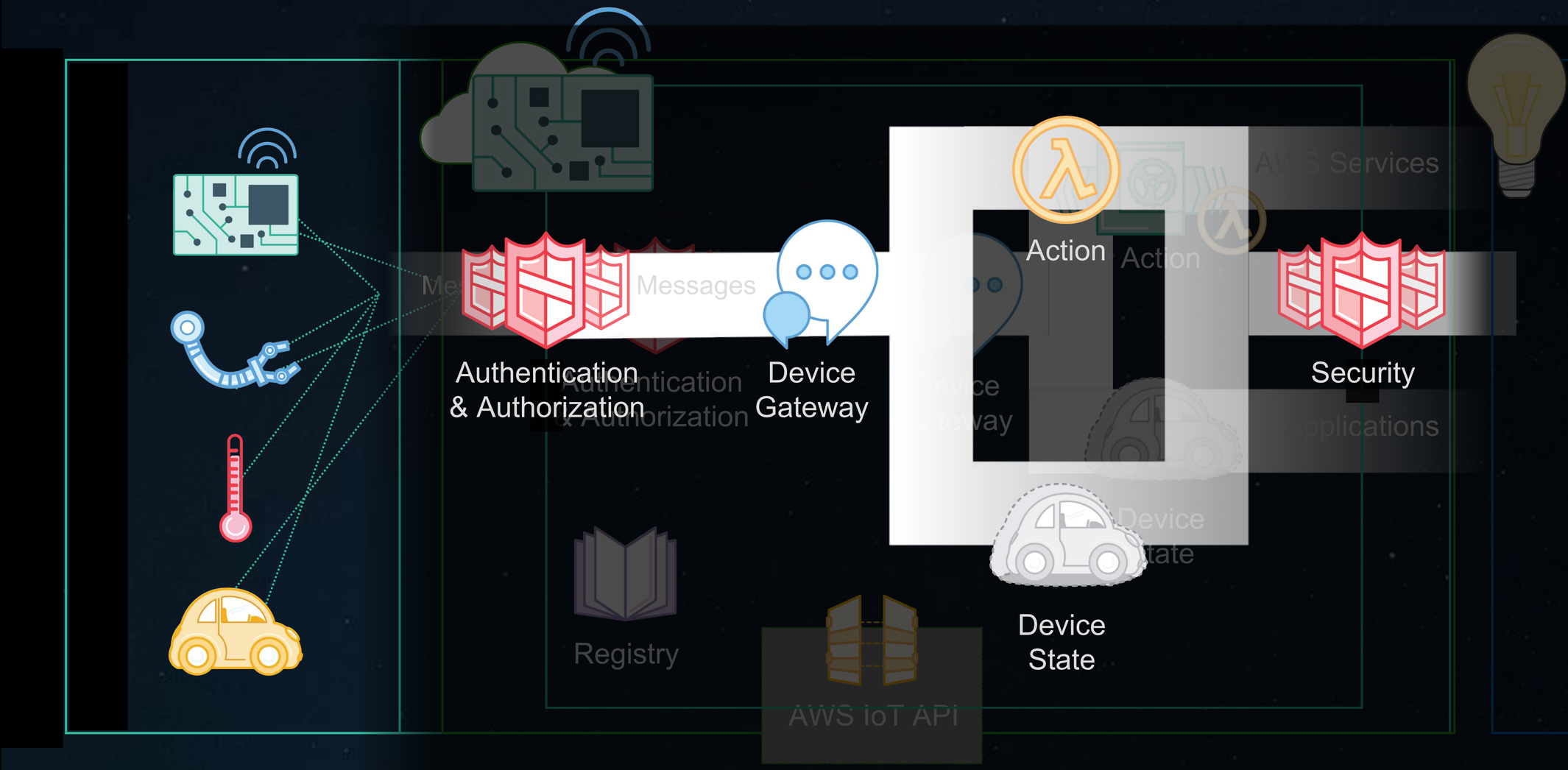
Intelligence
Insights &
Logic → Action

Starting in the cloud



Going to the edge

Introducing AWS Greengrass



*Note: Greengrass is NOT Hardware (You bring your own)

FLIGHT

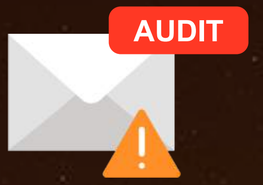
Old World Databases

Very expensive

Proprietary

Lock-in

Punitive licensing

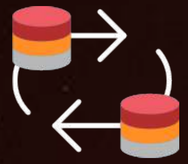


You’ve got mail!

It’s Why Customers Are Moving To Open Database Engines

Migrating Databases To AWS

Migrate between on-prem and AWS



Migrate between databases

Automated schema conversion

Data replication for zero downtime migrations

28,000+

databases migrated

Amazon Aurora

Speed and availability of commercial databases with cost-effectiveness of open source

MySQL compatible

Up to 5x performance of high-end MySQL

Highly available and durable

1/10th the cost of commercial grade databases

Fastest growing AWS service, ever

Amazon Aurora PostgreSQL-Compatible Edition

Fully PostgreSQL compatible

Several times better performance than typical PostgreSQL database

Scalable, durable and secure

Migrate from RDS for PostgreSQL

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Examples Of Customer Success Using Aurora

Expedia

Lodging inventory system

FANDUEL

Scale for large events

FINRA

Billions of financial transactions

INTERCOM

>2 billion rows

NETFLIX

Petabytes of streams and playback artifacts

ZUMBA

Millions of transactions per day

zynga

Reduced operational burden

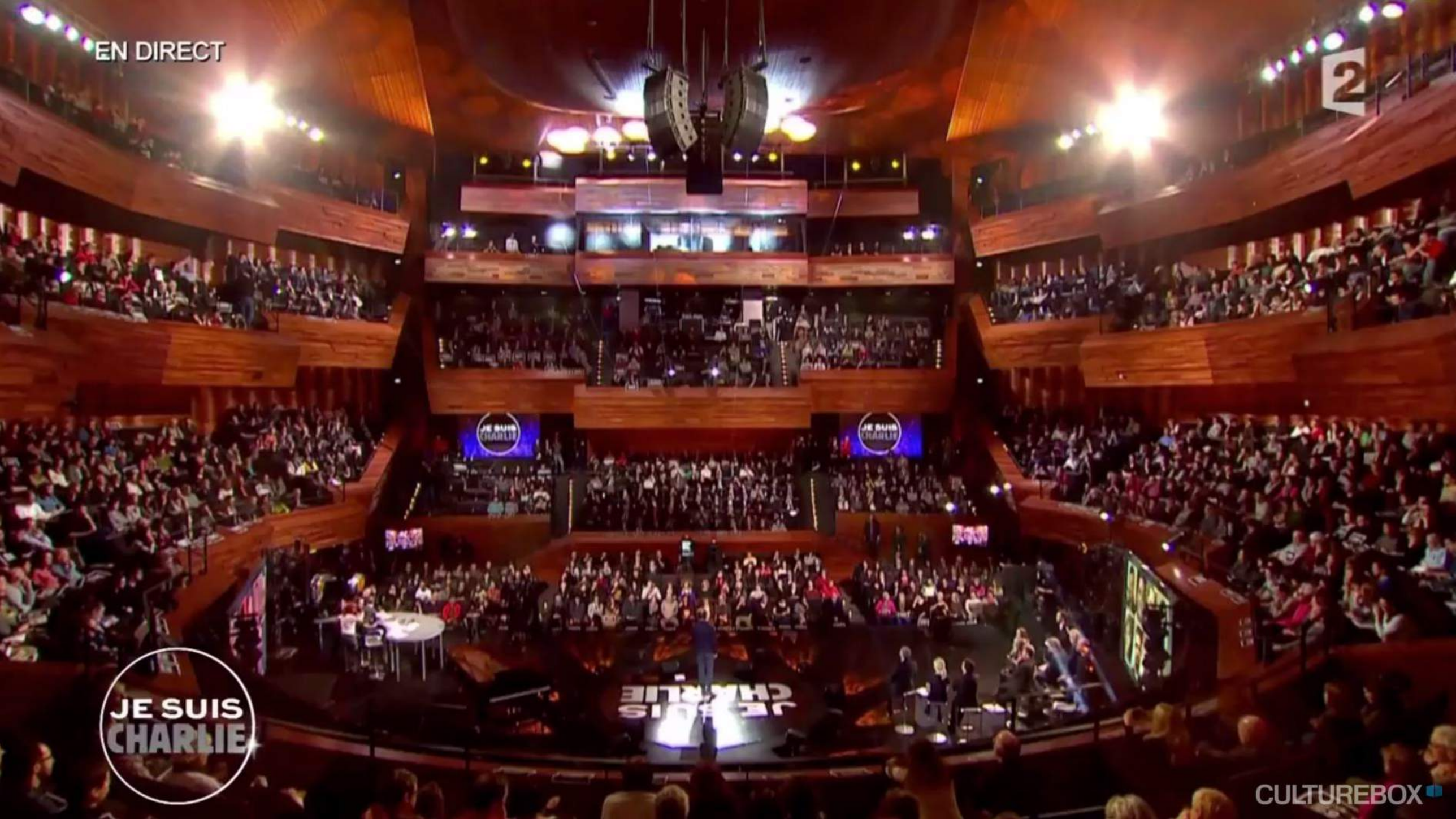
Laurent Frisch

Directeur du Numérique
Radio France

radiofrance

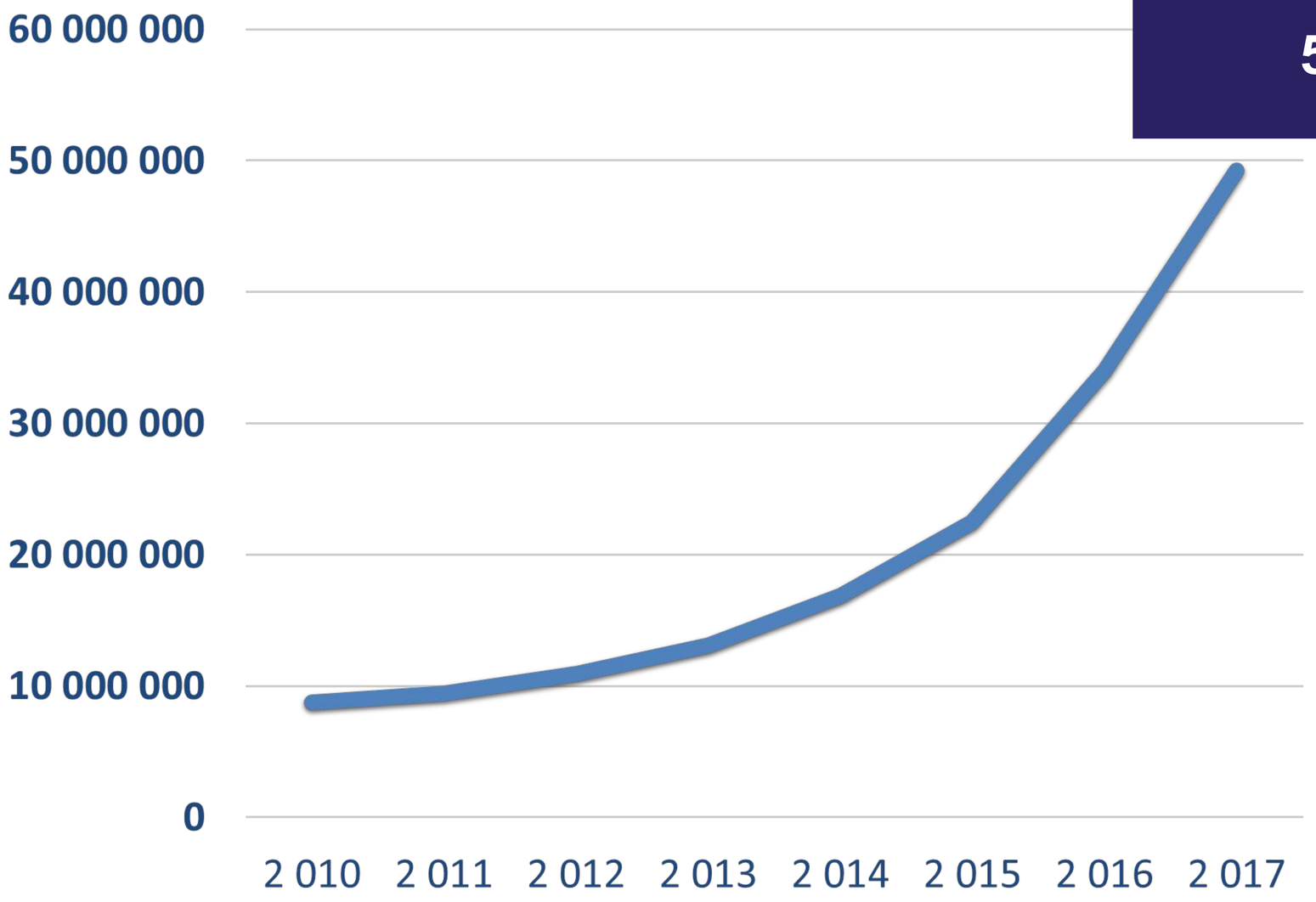
franceinfo:

MOUV'

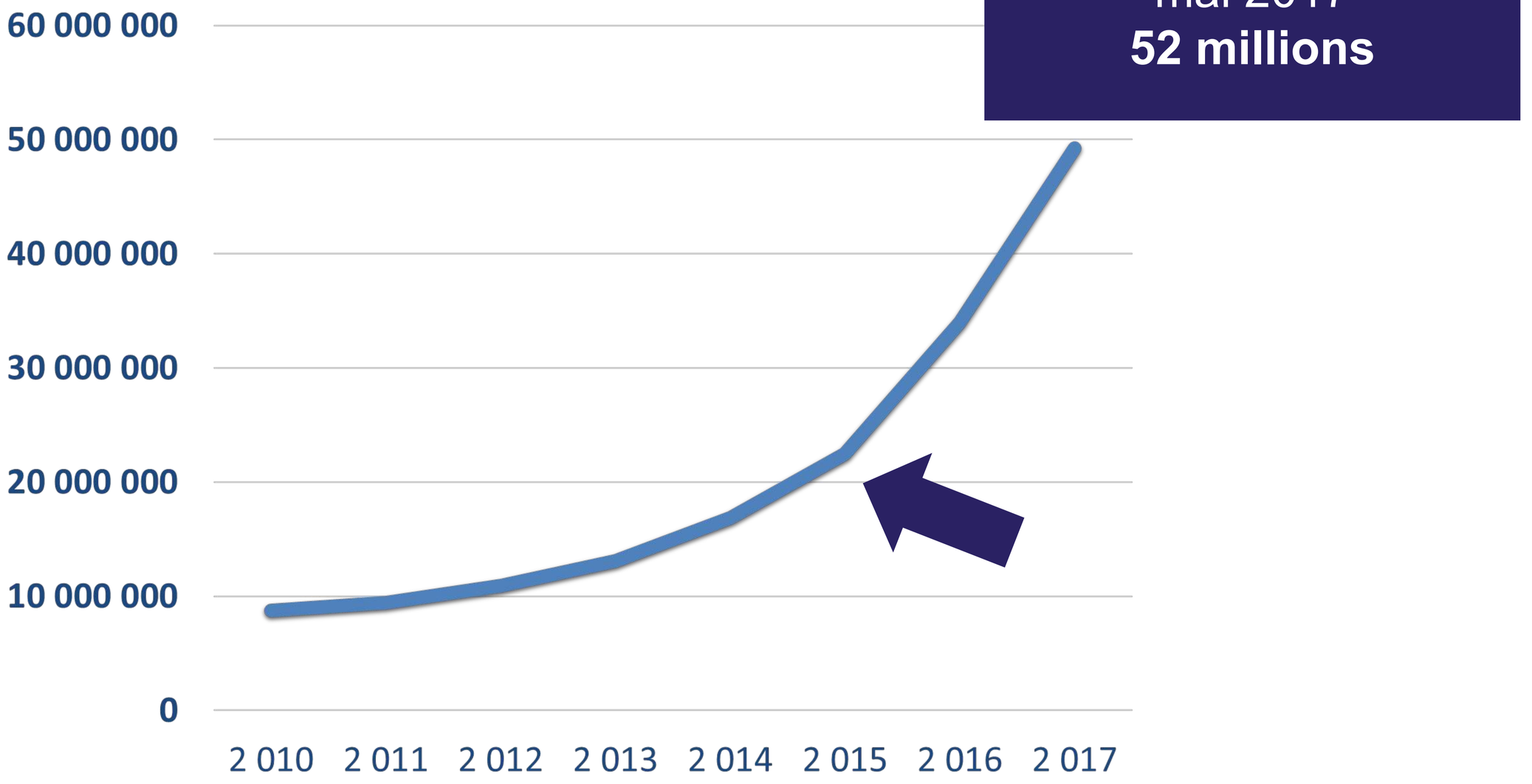

EN DIRECT
JE SUIS CHARLIE
JE SUIS CHARLIE
JE SUIS CHARLIE
JE SUIS CHARLIE
CULTUREBOX

Croissance des podcasts

mai 2017
52 millions

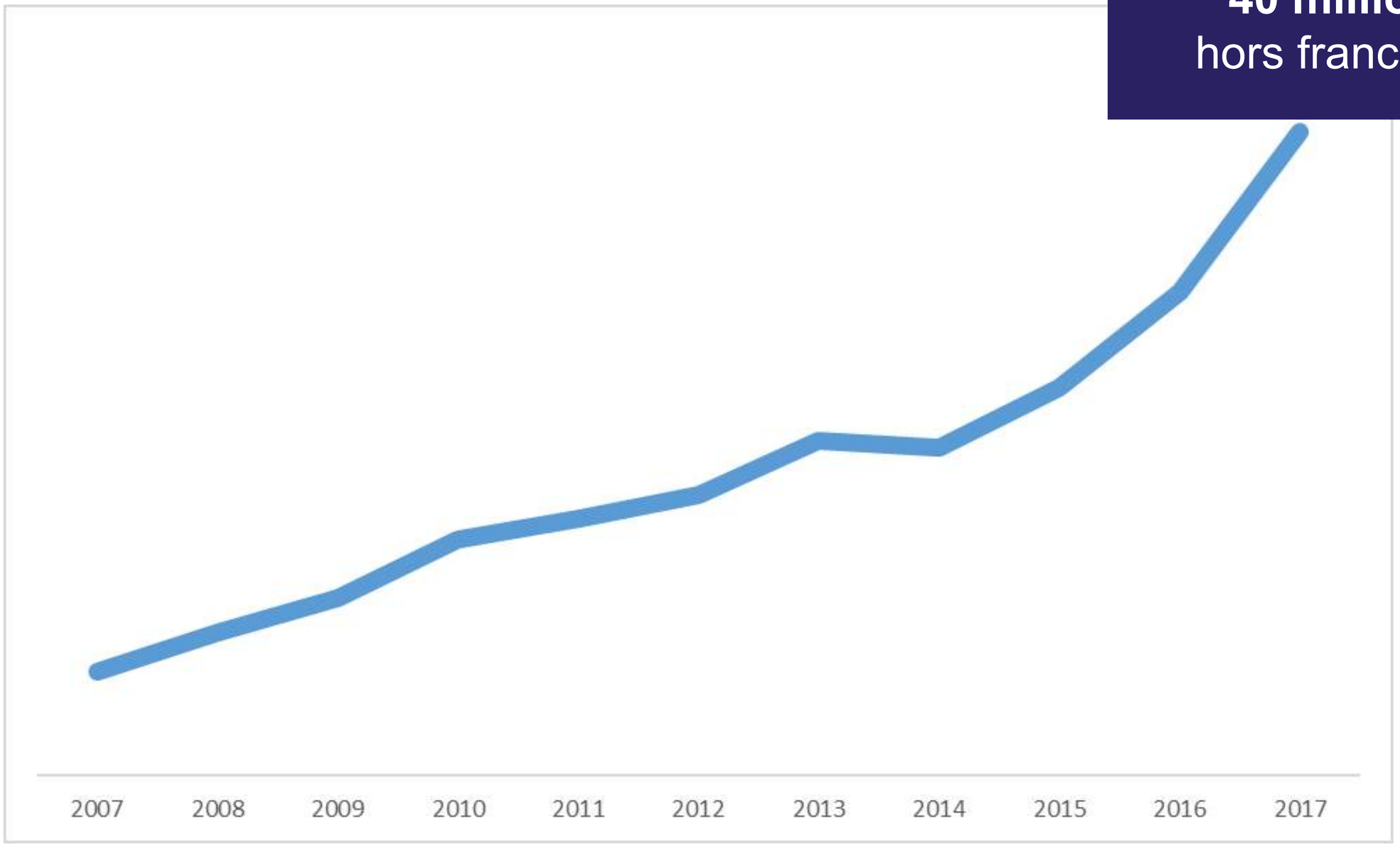


Croissance des podcasts

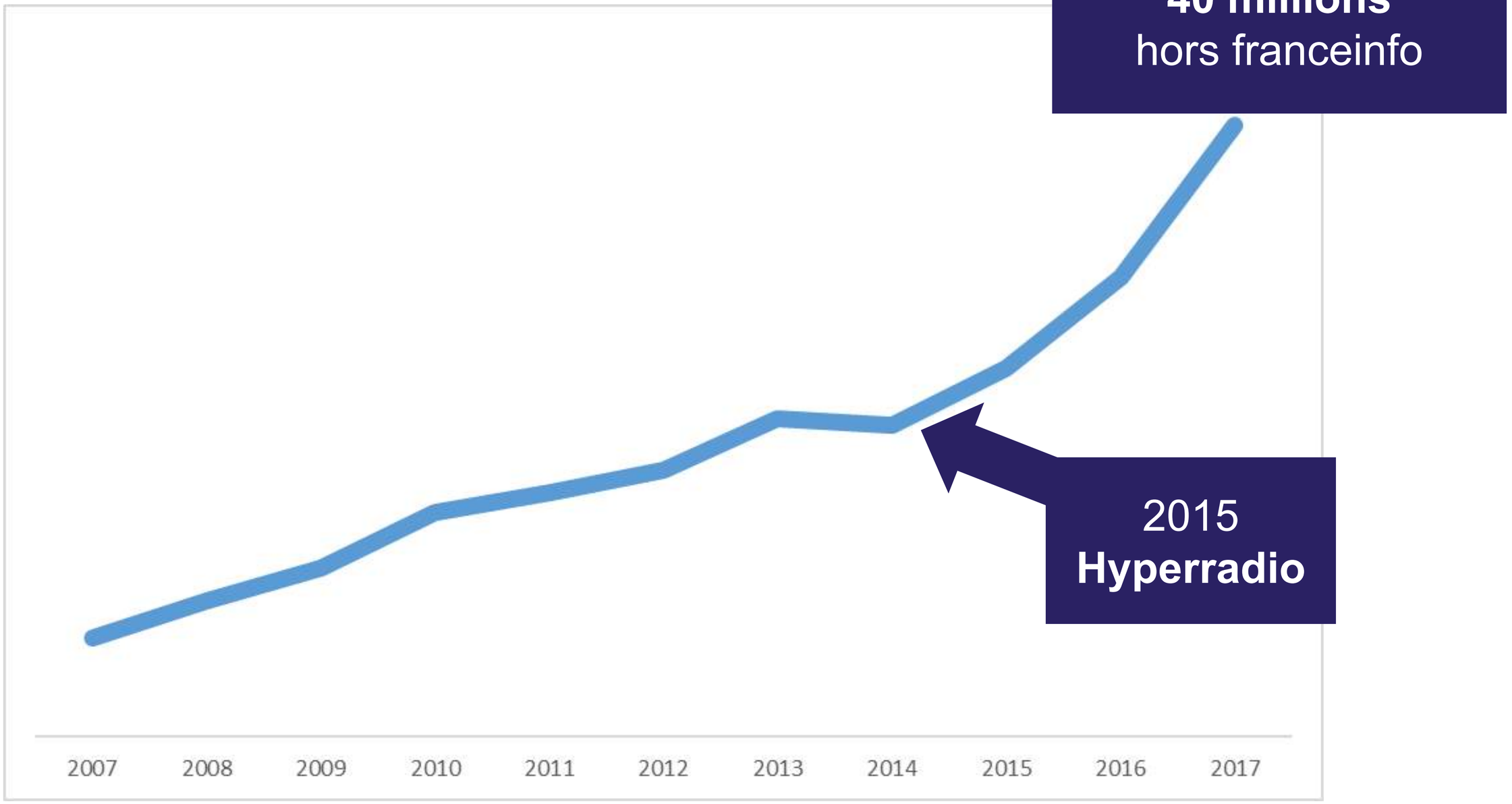


Croissance des visites

mai 2017
40 millions
hors franceinfo



Croissance des visites



Principes

1. USER CENTRIC

- ❑Comprendre les usages
- ❑Etre sur tous les écrans… et mobile-first
- ❑Développer des produits en agile

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- ❑UX de l’internaute
- ❑UX du contributeur
- ❑Fiabilité au bon moment

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- ❑Fiabilité au bon moment

3. MOUVEMENT

- ❑Modularité
- ❑API-centric
- ❑Archi. sys + applicative + front

Le Cloud AWS

Amazon EC2, containers
Amazon S3
Amazon Route 53

Des contenus et des usages

Base données

- 1,5M pages
- 1,4M sons
- +10 To

1 mois

- 170M écoutes
- 1000To audio
- 150M visites
- +20M internautes

amazon
web services

X-RAY VISION

AWS Has Made Petabyte-Scale Analytics Accessible To Companies Of All Sizes

Interactive query service
Amazon Athena

Hadoop, Spark and Presto
Amazon EMR

Data warehousing
Amazon Redshift

Amazon Athena

Interactive query service that makes it easy to analyze data in Amazon S3 using standard SQL

- Query S3 directly and right away
- No infrastructure or clusters to setup and manage
- Fast results within seconds
- Pay for just the queries you run

Amazon EMR

Analyze large data sets using popular big data processing frameworks

Hadoop, Spark, Presto, HBase

Fully customizable clusters

Code your own applications

Amazon Redshift

Petabyte-scale data warehousing for complex queries and super-fast performance

Pull together data from different sources

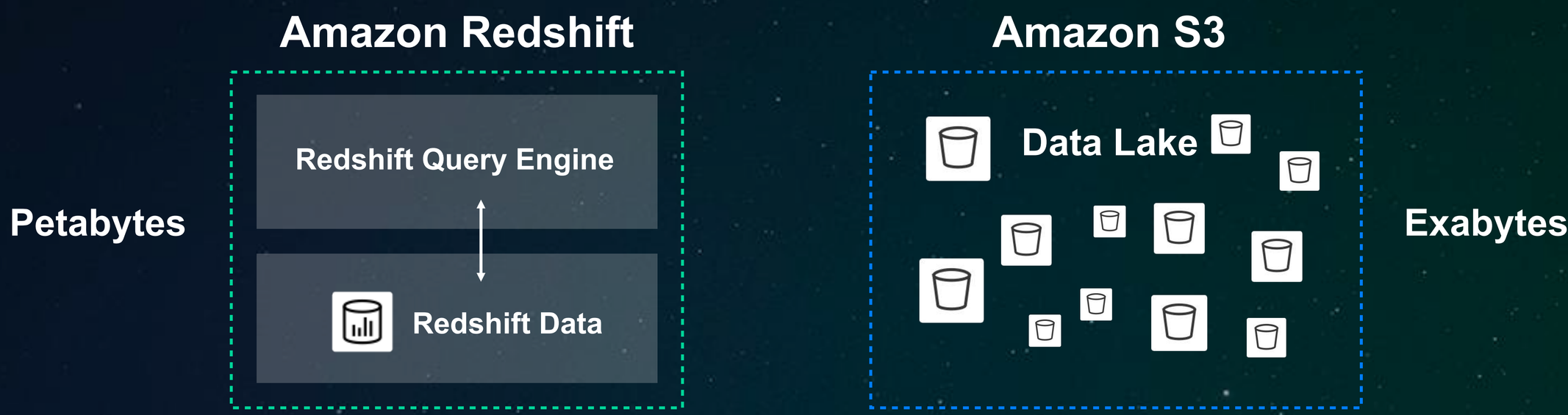
Highly structured

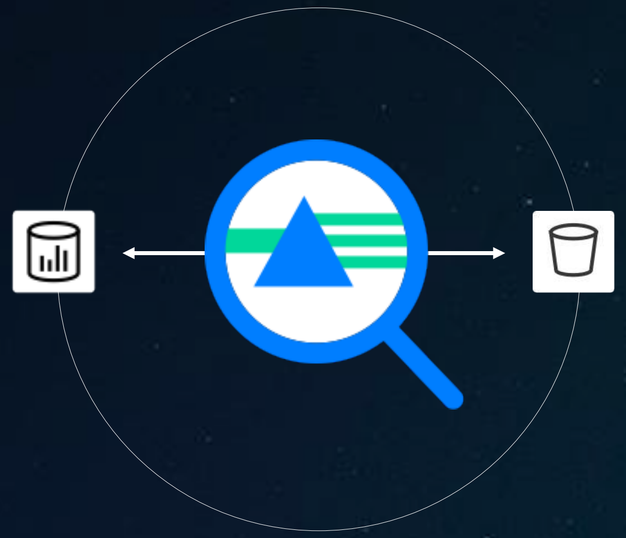
Complex queries across very large databases

20x faster than ad-hoc query services

Customers Love Redshift

But Customers Are Storing Even More Data In Amazon S3



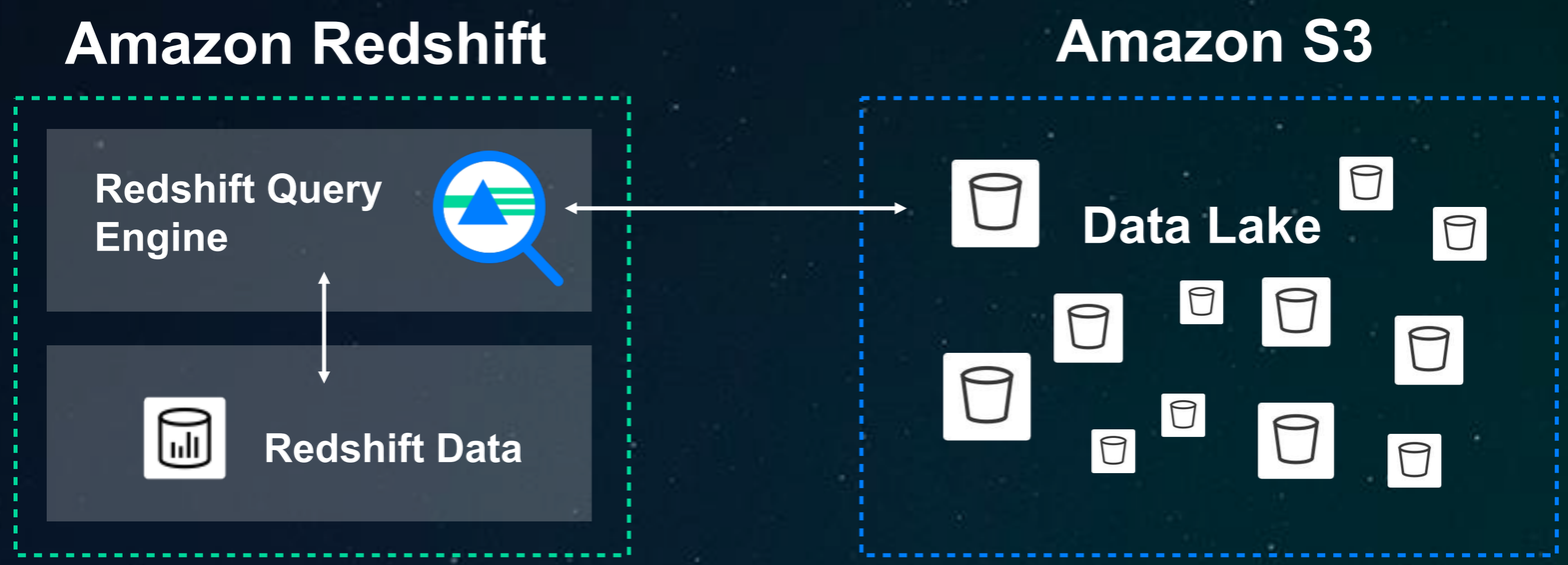


Introducing

Redshift Spectrum

Run queries directly on exabytes of data in Amazon S3

Redshift Spectrum: Extend Redshift Queries To Data In Amazon S3



Query S3 directly or join data across Redshift and S3

Support for CSV, JSON, ORC, and Parquet data formats

Scale Redshift compute and storage separately

Redshift Spectrum Performance

Complex query
against exabyte dataset

4 tables (1 S3, 3 local), 8 filters, 3 joins, 4 group by columns, 1 order by, 1 limit, 1 aggregation, 1 function and 2 casts

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Hive (1000 node clusters):

5 years

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Hive (1000 node clusters):

5 years

Spectrum:

155 seconds

Customers Already Using Redshift Spectrum

Gérard Guinamand

Deputy Director
Engie Digital

THE DIGITAL TRANSFORMATION OF ENGIE

OUR AMBITION : To become a forerunner of the future energy world, we are making a big investment to digitize our company, redefine the customer experience and set new rules of engagement in the industry.

70
COUNTRIES

€66.6
BILLION ANNUAL REVENUE

153,000
EMPLOYEES

112.7GW
POWER PRODUCTION

#1
SUPPLIER OF ENERGY EFFICIENCY SERVICES IN THE WORLD

#1
POWER PRODUCER IN THE WORLD

“A future that will be greatly decentralized, online,

with a customer relationship that will radically change its very nature as our customers,

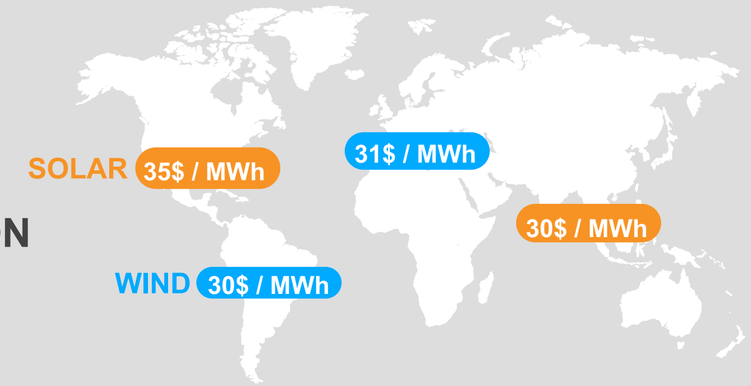
in the world that I am describing to you, we’ll be as much producers as they are consumers”

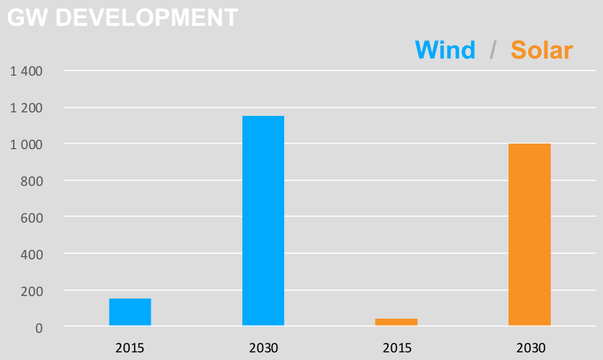
Isabelle Kocher, Group CEO Engie
Smart Energies Summit 2016

DIGITAL CONTEXT OF THE ENERGY SECTOR

MASSIVE INVESTMENT IS REQUIRED TO SUPPORT TRANSITION TO DECARBONIZED, DIGITAL & DECENTRALIZED WORLD

ENERGY TRANSITION





Source: Energy research institute national development and reform commission (China)

DIGITAL ERA

MOBILITY
Ability to provide mobile services to consumers and employees

BIG DATA
Ability to handle large volumes of data

INTERNET OF THINGS
Ability to interconnect people and objects

Billions of investments will be required in the energy sector to prepare for:

1. The end of fossil fuels and the emergence of a decentralized energy

2. The digitalization of everything which is accelerating that movement

ENGIE DIGITAL TRANSFORMATION

CREATING ONE BIG DATA PLATFORM WITH C3 IOT

C3 Residential
C3 Commercial
C3 Enterprise
C3 Distributed Resource Management
C3 Sensor Health
C3 Loss Detection
C3 Predictive Maintenance
C3 Investment Planning
C3 Demand Forecasting
C3 Cybersecurity
C3 Well Placement and Health
C3 Production Optimization
C3 Smart Cities
C3 Trading Analytics

5 DOMAINS

- SOLUTIONS FOR RESIDENTIAL AND PROFESSIONAL
- SOLUTIONS FOR BUSINESSES
- DECENTRALIZED SOLUTIONS FOR CITIES AND TERRITORIES
- GAS CHAIN
- CENTRALIZED PRODUCTION OF ELECTRICITY

ONE EXAMPLE: SMART BUILDINGS

“CLARA DOMUS”: THE ENERGY MANAGEMENT APPLICATION

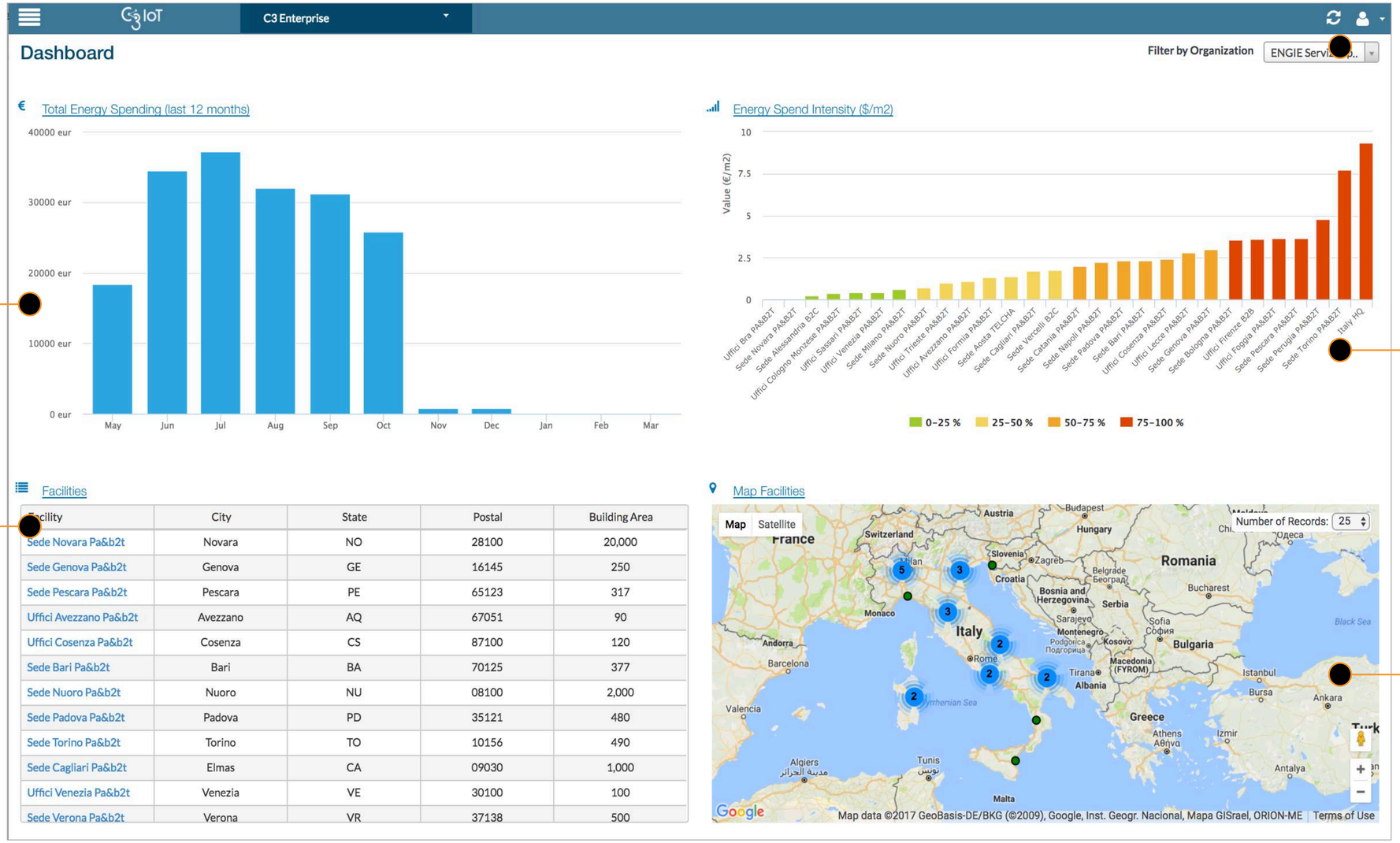
BENEFITS

1. Energy Management Application:
   - Maintain contractual obligations for Temperature, Humidity, and other parameters
   - Optimize energy consumption and reduce costs
2. Identify optimal number and placement location for sensors
3. Benchmark / baseline consumption across buildings

FACILITY DASHBOARD

Organization energy spending
Last 12 months

List of facilities



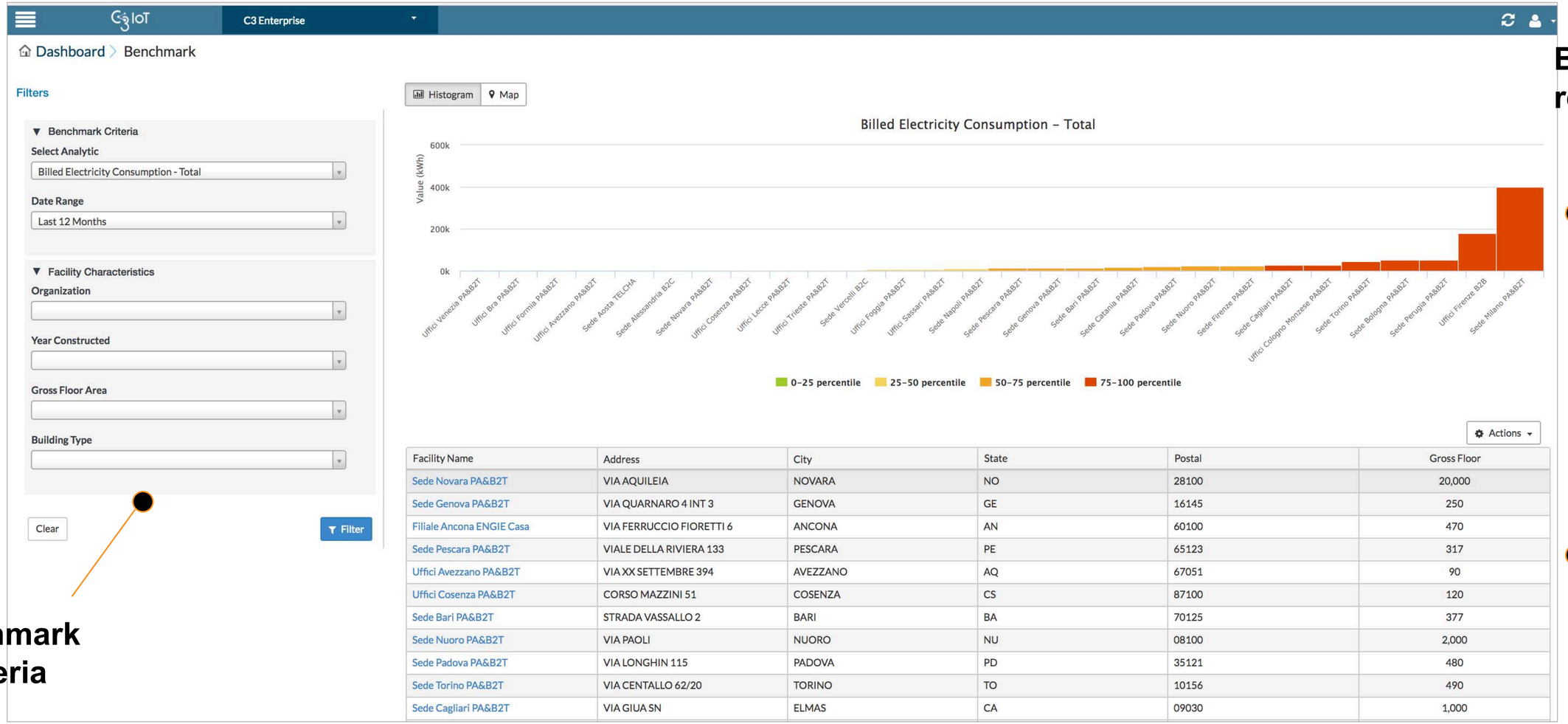
Facility	City	State	Postal	Building Area
Sede Novara Pa&b2t	Novara	NO	28100	20,000
Sede Genova Pa&b2t	Genova	GE	16145	250
Sede Pescara Pa&b2t	Pescara	PE	65123	317
Uffici Avezzano Pa&b2t	Avezzano	AQ	67051	90
Uffici Cosenza Pa&b2t	Cosenza	CS	87100	120
Sede Bari Pa&b2t	Bari	BA	70125	377
Sede Nuoro Pa&b2t	Nuoro	NU	08100	2,000
Sede Padova Pa&b2t	Padova	PD	35121	480
Sede Torino Pa&b2t	Torino	TO	10156	490
Sede Cagliari Pa&b2t	Elmas	CA	09030	1,000
Uffici Venezia Pa&b2t	Venezia	VE	30100	100
Sede Verona Pa&b2t	Verona	VR	37138	500

Building energy cost intensity

Per square Meter

Geospatial search of all facilities

FACILITY BENCHMARK



Benchmark results

List of relevant facilities

Benchmark criteria

KEY LEARNINGS

A FEW TAKEAWAYS FROM THE FIRST 6 MONTHS

ECOSYSTEM MINDSET

PRODUCT, NOT PROJECT

SIGNATURE PRODUCTS

COMMUNITY MODEL

amazon
web services

PRECOGNITION

The Challenge For Artificial Intelligence: SCALE

Data

The Challenge For Artificial Intelligence: SCALE

Data

Training

The Challenge For Artificial Intelligence: SCALE

Data

Training

Prediction

The Challenge For Artificial Intelligence: SCALE

Data

PBs of existing data

Aggressive migration

New data created on AWS

Training

Prediction

The Challenge For Artificial Intelligence: SCALE

Data

PBs of existing data

Aggressive migration

New data created on AWS

Training

Tons of GPUs

Elastic capacity

Pre-built images

Prediction

The Challenge For Artificial Intelligence: SCALE

Data

PBs of existing data

Aggressive migration

New data created on AWS

Training

Tons of GPUs

Elastic capacity

Pre-built images

Prediction

Tons of GPUs and CPUs

Serverless

At the Edge, On IoT Devices

AWS is the Center of Gravity for Artificial Intelligence

Thousands of Amazon Engineers Focused on AI

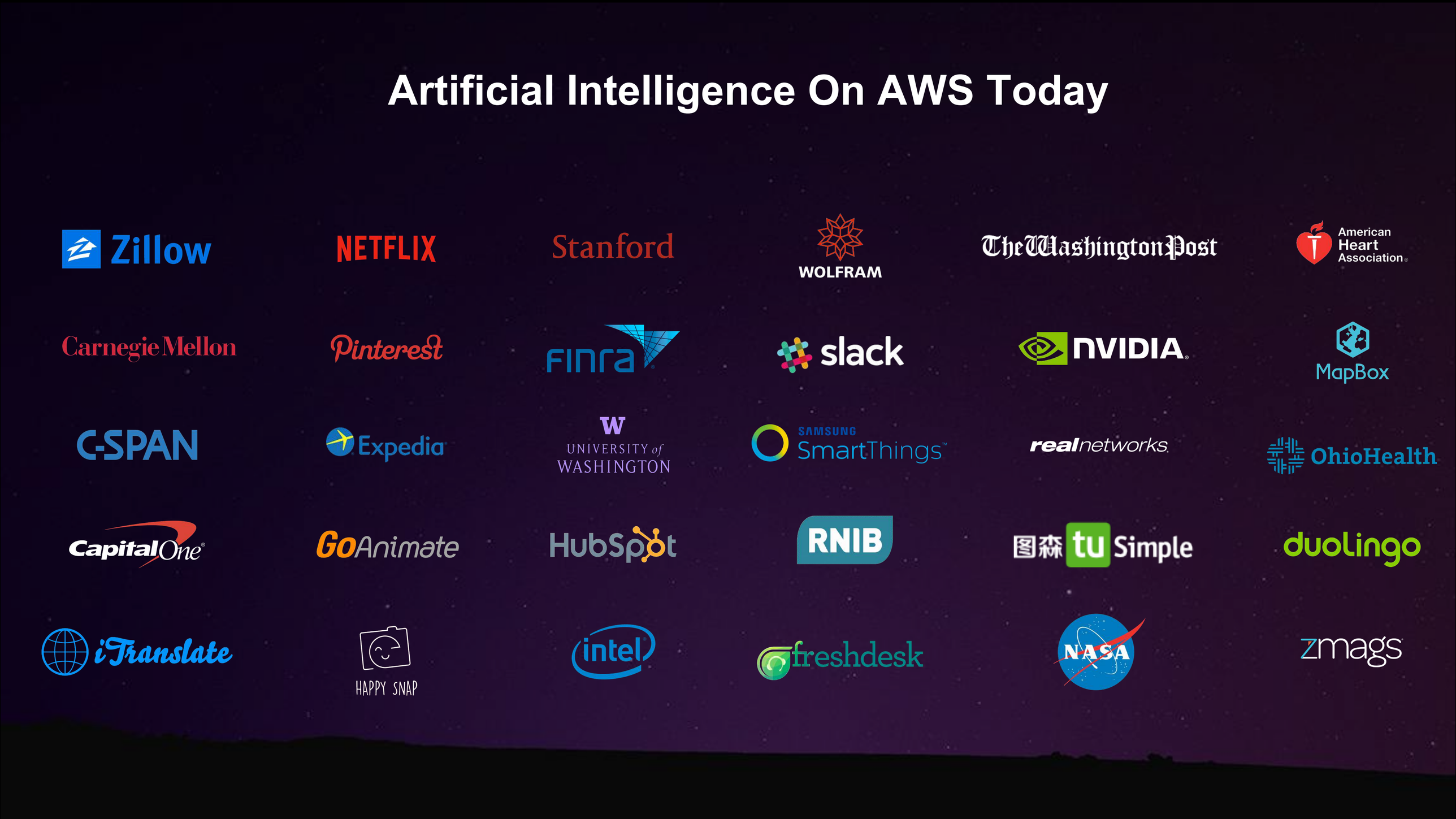
Fulfilment & Logistics

Search & Discovery

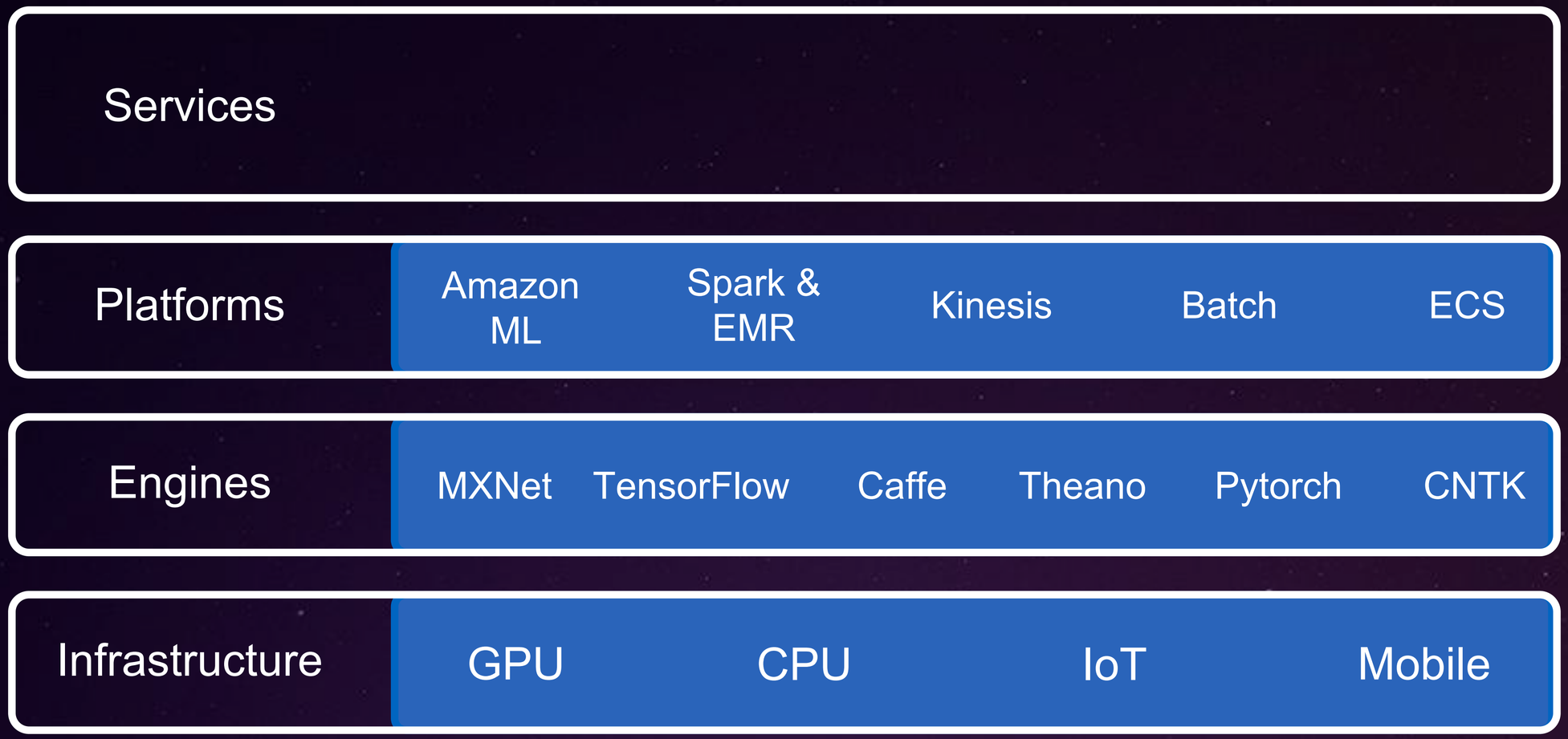
Existing Products

New Products

Artificial Intelligence On AWS Today



Amazon AI: Artificial Intelligence In The Hands Of Every Developer



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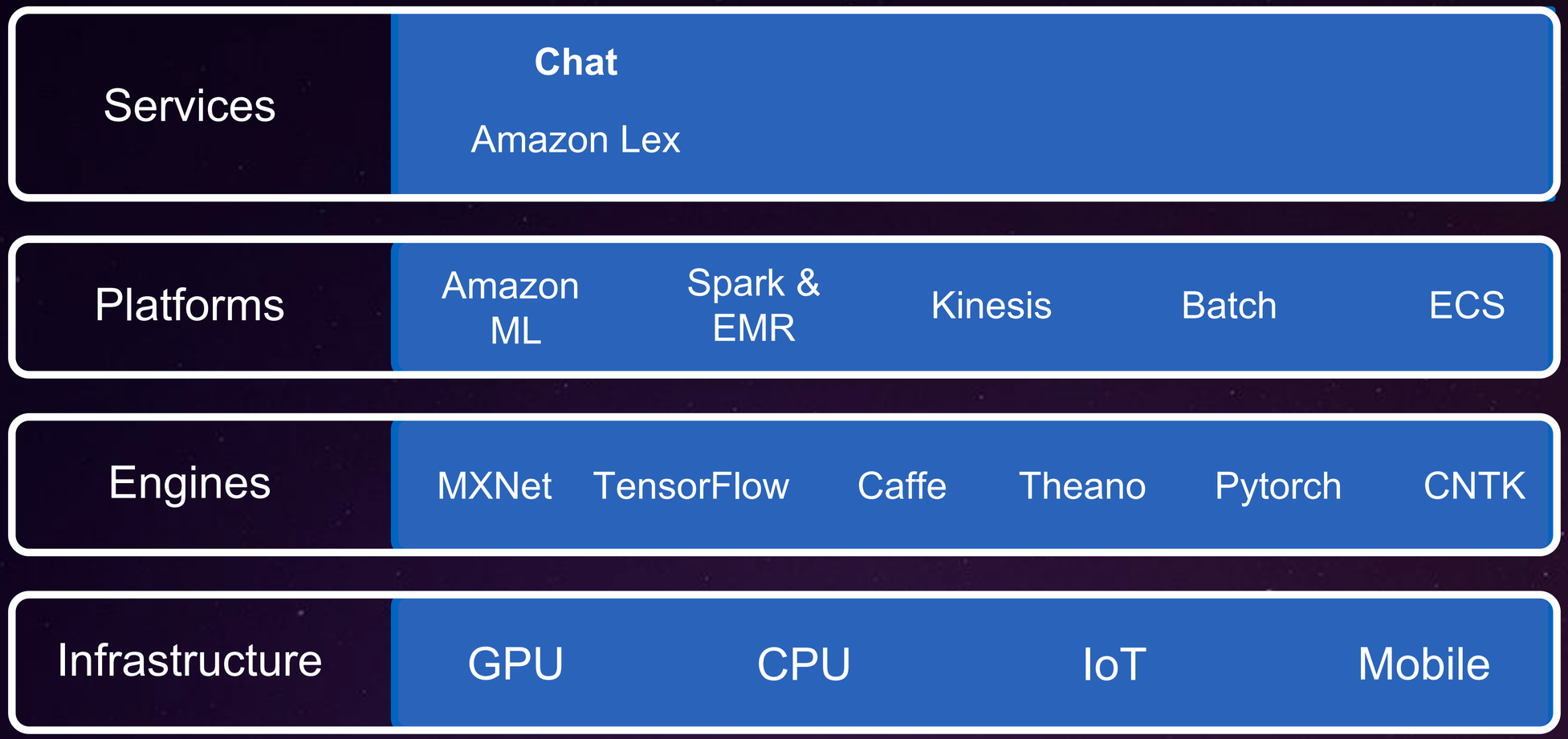
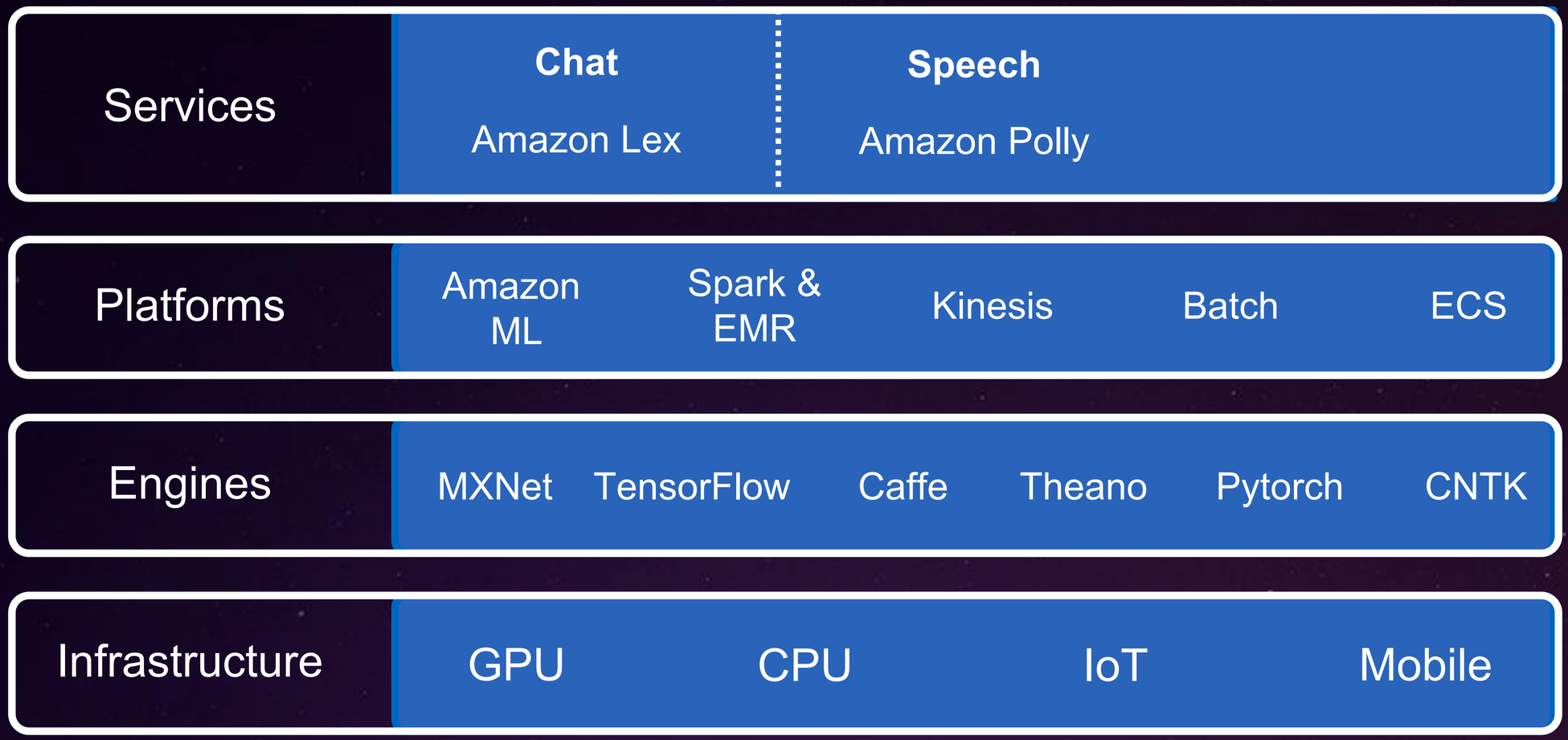


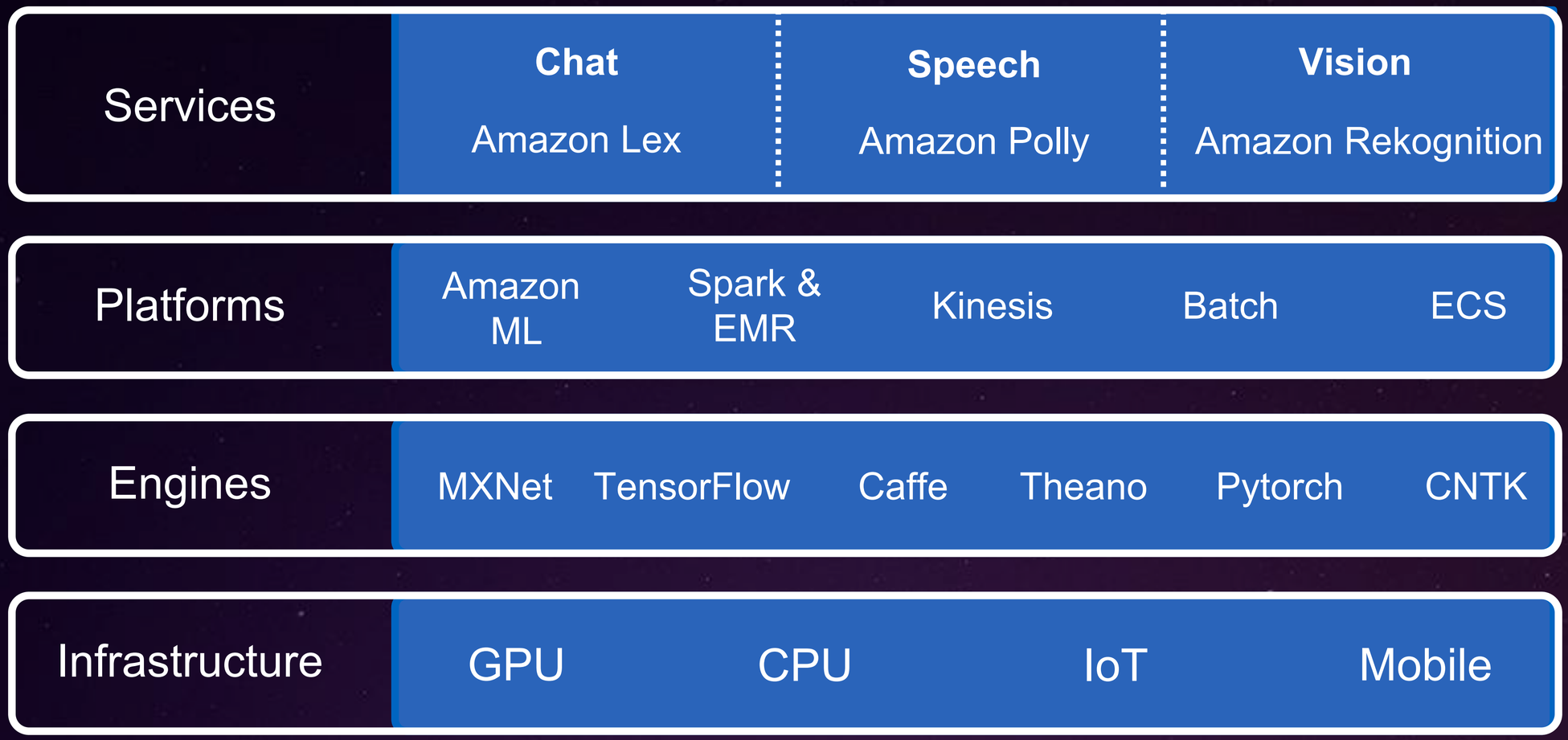
Amazon Lex: Customers

Amazon AI: Artificial Intelligence In The Hands Of Every Developer

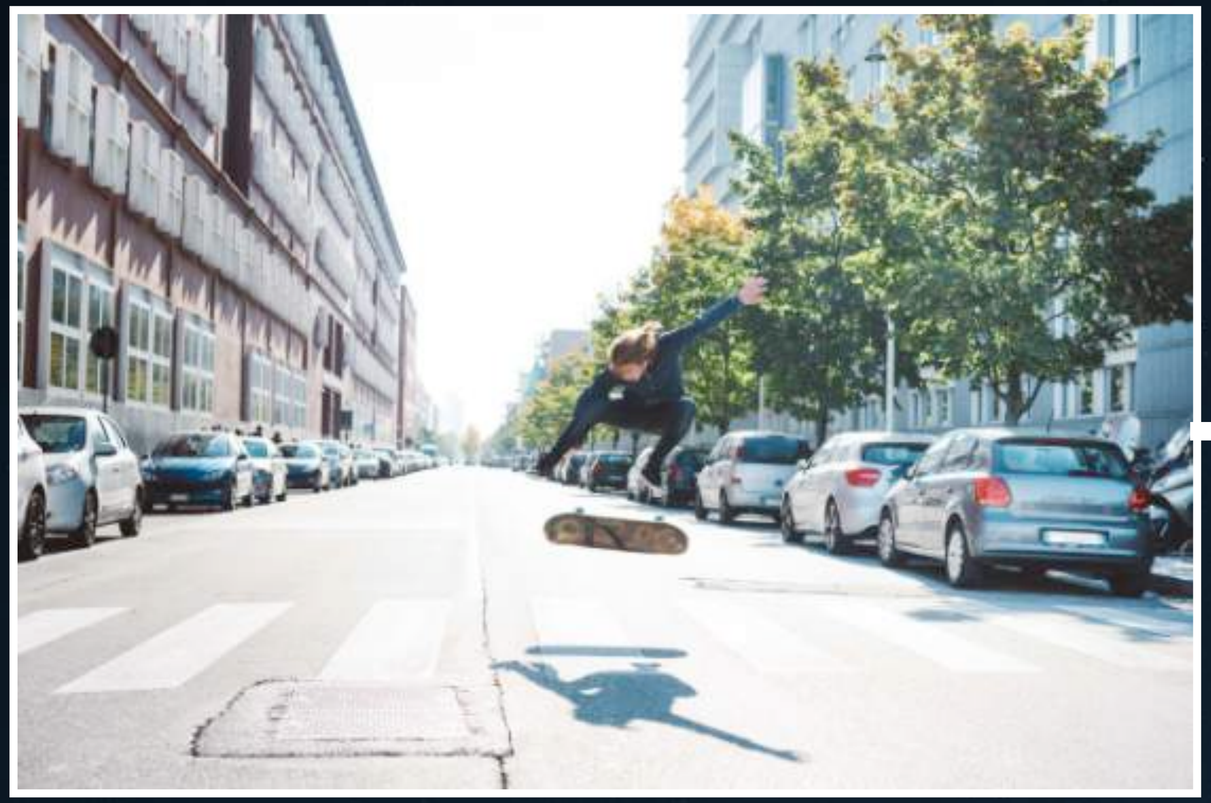


Amazon Polly: Customers

Amazon AI: Artificial Intelligence In The Hands Of Every Developer

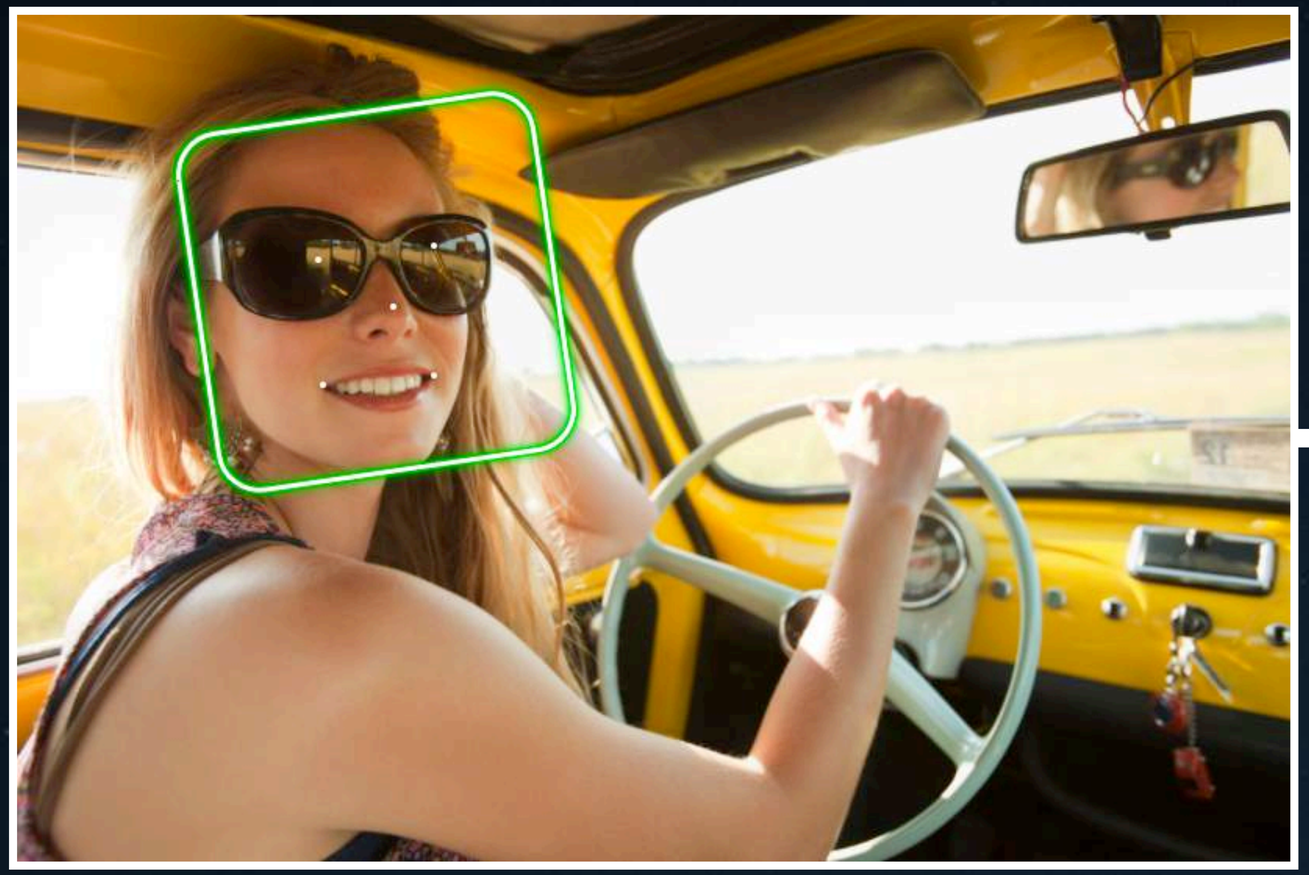


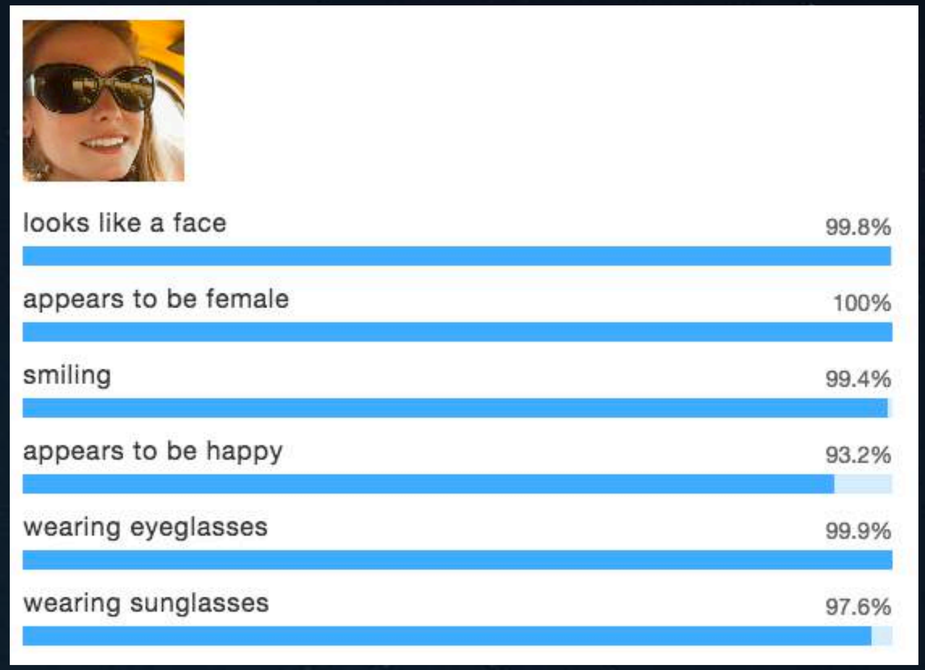
Amazon Rekognition: Object & Scene Detection



Skateboard	99.2%
Sport	99.2%
People	99.2%
Person	99.2%
Human	99.2%
Parking	97.4%
Parking Lot	97.4%
Automobile	91.5%
Car	91.5%
Vehicle	91.5%
Intersection	76.8%
Road	76.8%
Boardwalk	76.2%
Path	76.2%
Pavement	76.2%
Sidewalk	76.2%

Amazon Rekognition: Facial Detection





Amazon Rekognition: Facial Search

Amazon Rekognition: Customers

In conclusion...

IMMORTALITY

Startups Are Breathing New Life Into Virtually Every Industry

Accommodation

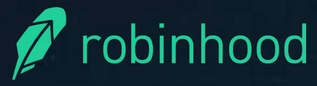
CPG

Education

Customer relations

Healthcare

Visual search



Trading

Teams

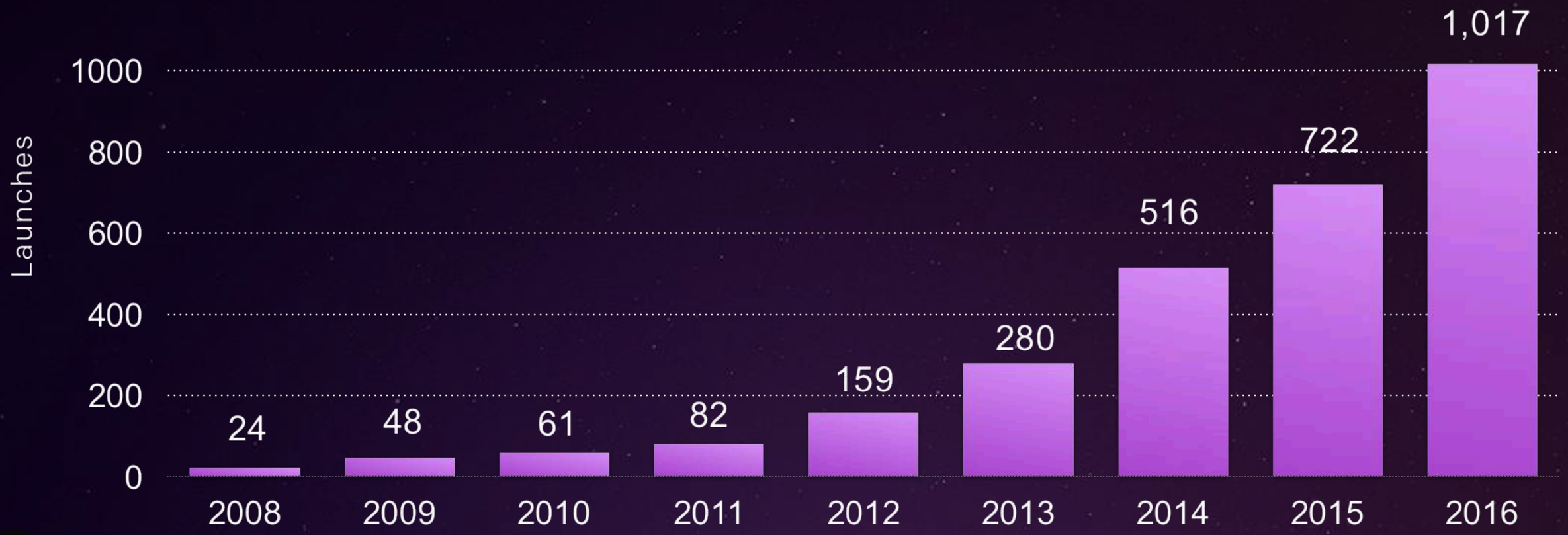
Payments

Communication

Digital Transformation Is Key To Survival For Enterprises

Go build!

Pace Of Innovation:
New Capabilities Daily



THANK YOU

@aws_actus