

# Cloud computing

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Amazon Web Services

# Qué no es cloud computing?

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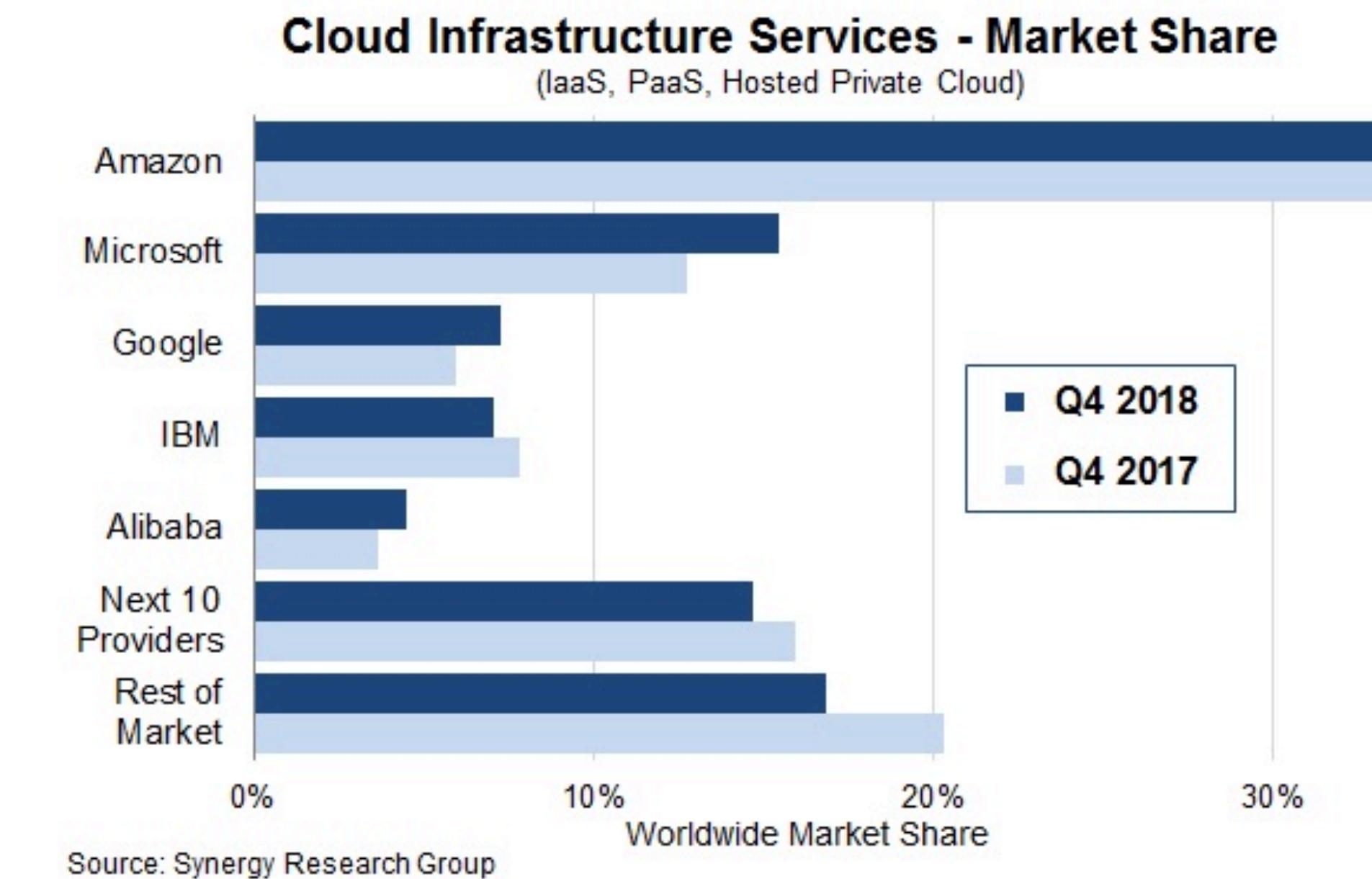
- Hosting
- Co-locación
- Renting
- Virtualización

# Características

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- Pay-as-you-go/Medido
- APIs, SDKs, CLI
- Inter-operabilidad más no interdependencia
- Redundancia en cada nivel
- Elasticidad, *rápida elasticidad*
- Bajo demanda y auto-servicio
- Acceso desde cualquier lugar
- Pool de recursos compartidos
- Aprovisionamiento ágil y temporal a cualquier escala

# Posicionamiento



# ¿Porqué AWS?

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- Centro de datos AWS en Colombia (Edge Location) en el corto plazo, posiblemente Region en el futuro; posibilidad de Direct Connect dentro del mismo país
- Al no ser un vendor de software/hardware, no hay lock-in con sus productos. Se puede migrar hacia y fuera de AWS.
- Mayor oferta e inter-operabilidad de servicios propios, de otros proveedores y/o partners.
- Servicios y capacidades nuevas casi a diario

# AWS Marketplace

aws marketplace

Categories ▾ Delivery Methods ▾ Solutions ▾ Migration Mapping Assistant Your Saved List

Sign in or Create a new account

Storage & Backup (204 results) showing 1 - 10

1 2 3 4 5 ... 21 ►

**Cloud Volumes ONTAP for AWS - High Availability**

NetApp

Starting from \$0.49/hr or from \$3,245.00/yr (24% savings) for software + AWS usage fees

Cloud Volumes ONTAP (formerly ONTAP Cloud), data management software, is deployed using OnCommand Cloud Manager <http://aws.amazon.com/marketplace/pp/B018REK8QG> to deliver secure, proven NFS, SMB, and iSCSI data management for non-disruptive operation on EBS storage and tier to S3 storage. A software-only...

Linux/Unix, Other Cloud Volumes ONTAP 9.5 - 64-bit Amazon Machine Image (AMI)

**Cloud Volumes ONTAP for AWS (formerly ONTAP Cloud)**

NetApp Free Trial

Starting from \$0.75/hr or from \$4,993.00/yr (24% savings) for software + AWS usage fees

Cloud Volumes ONTAP, the leading enterprise storage operating system, is deployed using OnCommand Cloud Manager <http://aws.amazon.com/marketplace/pp/B018REK8QG> to deliver secure, proven NFS, SMB, and iSCSI data management for EBS storage and tier to S3 storage. A software-only storage service for your...

Linux/Unix, Other Cloud Volumes ONTAP 9.5 - 64-bit Amazon Machine Image (AMI)

**SFTP Gateway**

SFTP GATEWAY Product Support Connection

Starting from \$0.06/hr or from \$479.00/yr (9% savings) for software + AWS usage fees

SFTP Gateway is a secure-by-default, pre-configured SFTP server that saves uploaded files to an Amazon S3 bucket. SFTP Gateway is a simple and affordable service that is designed to grow with your business needs. By providing a documented RESTful API, SFTP Gateway is ready to integrate into your current...

Linux/Unix, Amazon Linux 2018.03.0 - 64-bit Amazon Machine Image (AMI)

**N2WS Backup & Recovery (CPM) Free Trial & BYOL Edition**

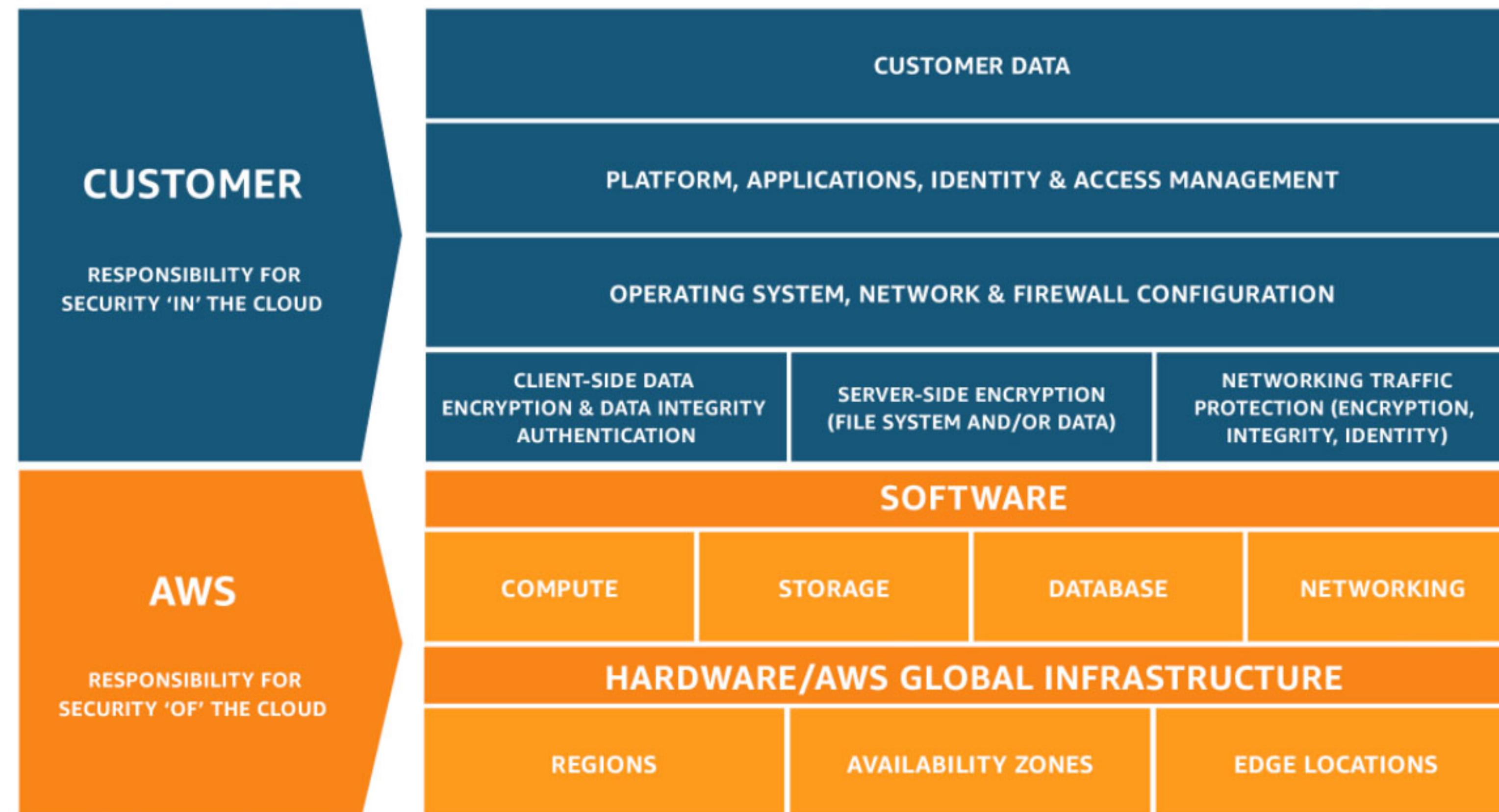
VEEAM N2WS

Starting from \$0.00/hr or from \$1,000.00/yr (9% savings) for software + AWS usage fees

TRY OUT This leading AWS backup, recovery and DR solution purpose-built for AWS workloads - N2WS Backup & Recovery 30-DAY FREE TRIAL & BYOL Edition. After trial ends, N2WS automatically converts into a FREE version that still protects your (limited to protecting up to 5

# Punto de Partida

# Responsabilidad Compartida - ¿Qué quiero administrar?



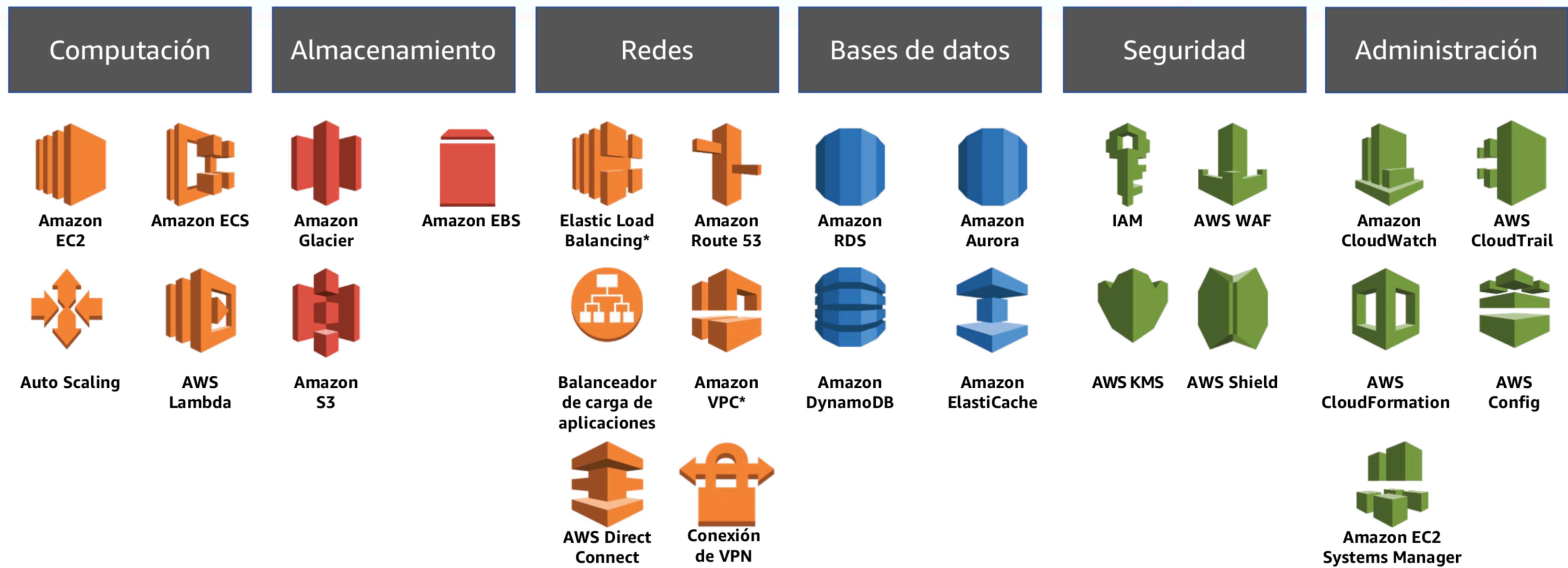
# Estrategias para ir a la nube

Pattern Label	Pattern Name	Pattern Percentage
R1	<b>Retain</b>	10%
R2	<b>Retire</b> (Decommission)	5%
R3	<b>Re-Host</b> (Lift and Shift)	40%
R4	<b>Re-Platform</b> (Lift and Replace)	30%
R5	<b>Re-Factor</b> (Rewriting and Decoupling Applications)	10%
R6	<b>Re-Purchase</b> (Replace/Drop and Shop)	5%

A bracket on the right side of the table groups the last four rows (R3-R6) under a total percentage of 70%.

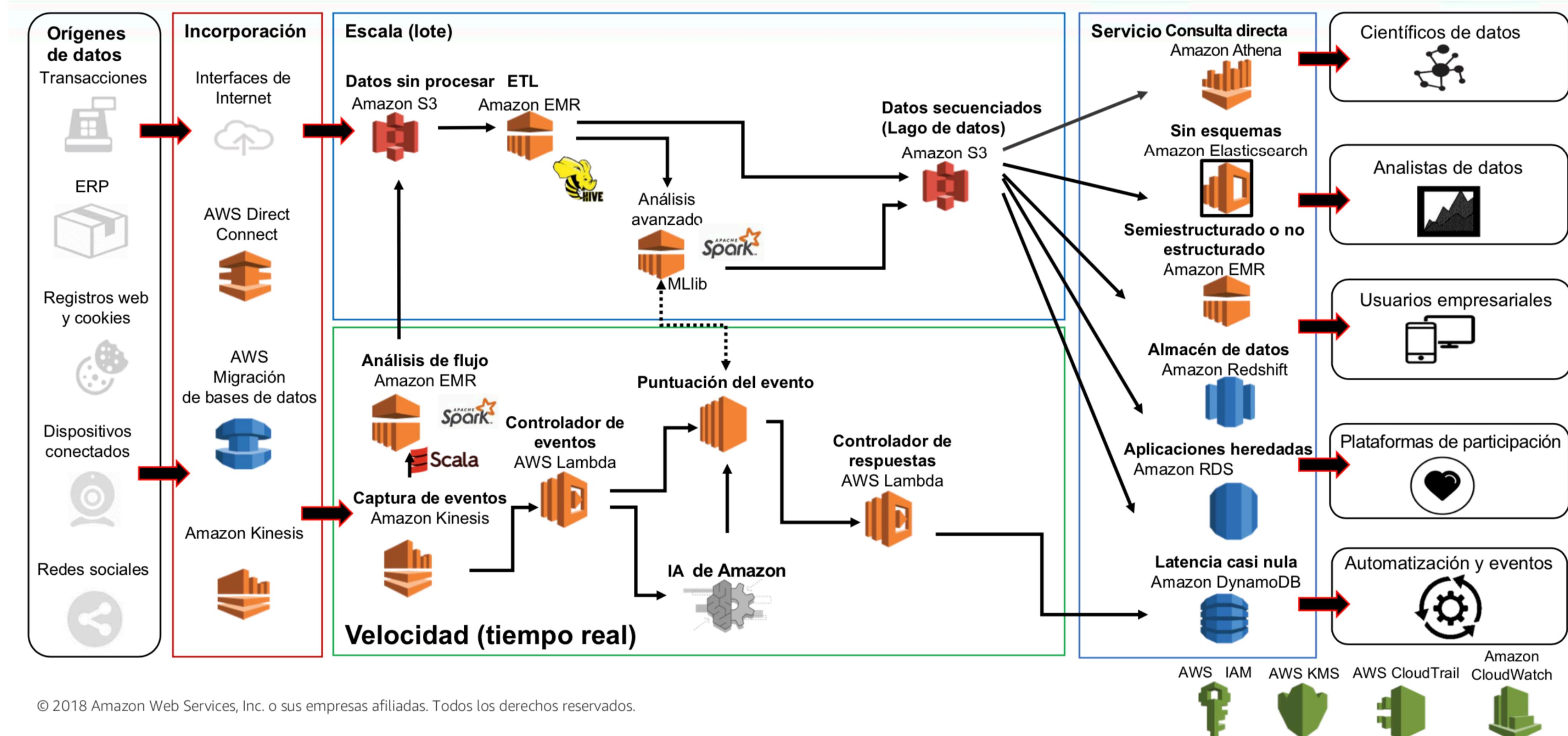
¿Por dónde empezar?

# Servicios Básicos



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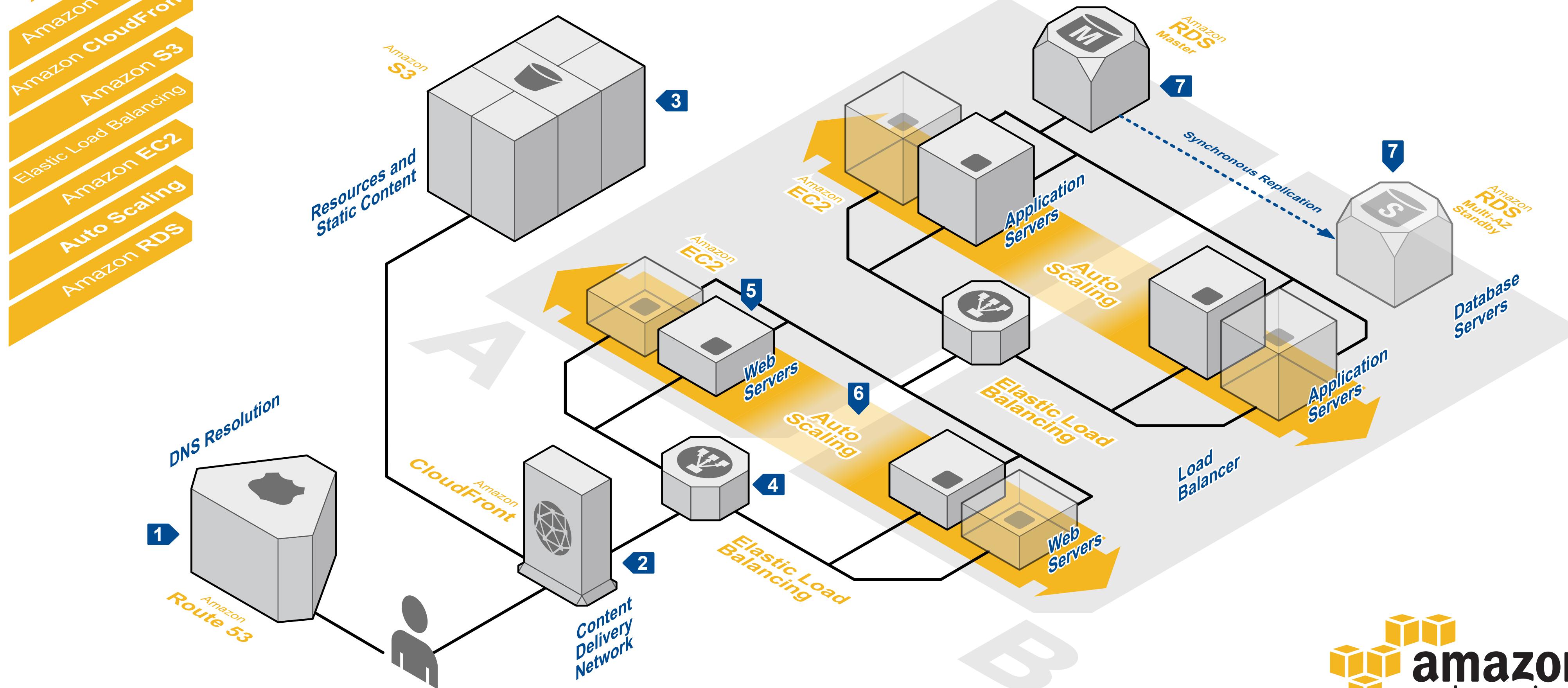
# Una arquitectura BigData





# WEB APPLICATION HOSTING

Highly available and scalable web hosting can be complex and expensive. Dense peak periods and wild swings in traffic patterns result in low utilization of expensive hardware. Amazon Web Services provides the reliable, scalable, secure, and high-performance infrastructure required for web applications while enabling an elastic, scale-out and scale-down infrastructure to match IT costs in real time as customer traffic fluctuates.



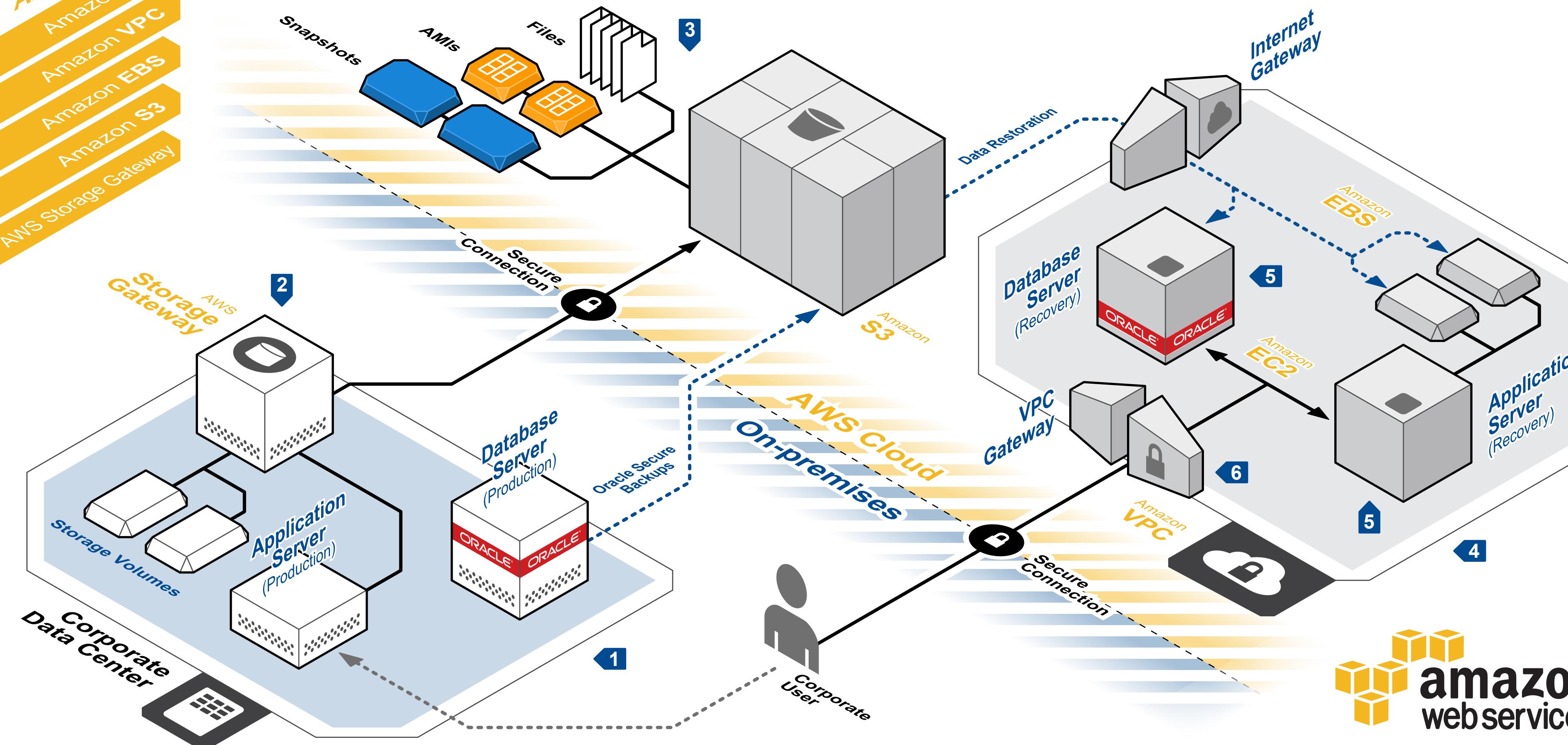
## System Overview

- The user's DNS requests are served by **Amazon Route 53**, a highly available Domain Name System (DNS) service. Network traffic is routed to infrastructure running in Amazon Web Services.
- Static, streaming, and dynamic content is delivered by **Amazon CloudFront**, a global network of edge locations. Requests are automatically routed to the nearest edge location, so content is delivered with the best possible performance.
- Resources and static content used by the web application are stored on **Amazon Simple Storage Service (S3)**, a highly durable storage infrastructure designed for mission-critical and primary data storage.
- HTTP requests are first handled by **Elastic Load Balancing**, which automatically distributes incoming application traffic among multiple **Amazon Elastic Compute Cloud (EC2)** instances across Availability Zones (AZs). It enables even greater fault tolerance in your applications, seamlessly providing the amount of load balancing capacity needed in response to incoming application traffic.
- Web servers and application servers are deployed on **Amazon EC2** instances. Most organizations will select an **Amazon Machine Image (AMI)** and then customize it to their needs. This custom AMI will then become the starting point for future web development.
- Web servers and application servers are deployed in an **Auto Scaling** group. Auto Scaling automatically adjusts your capacity up or down according to conditions you define. With Auto Scaling, you can ensure that the number of **Amazon EC2** instances you're using increases seamlessly during demand spikes to maintain performance and decreases automatically during demand to minimize costs.
- To provide high availability, the relational database that contains application's data is hosted redundantly on a multi-AZ (multiple Availability Zones—zones A and B here) deployment of **Amazon Relational Database Service (Amazon RDS)**.

# DISASTER RECOVERY FOR LOCAL APPLICATIONS

Disaster recovery is about preparing for and recovering from any event that has a negative impact on your IT systems. A typical approach involves duplicating infrastructure to ensure the availability of spare capacity in the event of a disaster.

Amazon Web Services allows you to scale up your infrastructure on an as-needed basis. For a disaster recovery solution, this results in significant cost savings. The following diagram shows an example of a disaster recovery setup for a local application.



## System Overview

- 1 A corporate data center hosts an application consisting of a database server and an application server with local storage for a content management system.
- 2 AWS Storage Gateway is a service connecting an on-premises software appliance with cloud-based storage. AWS Storage Gateway securely uploads data to the AWS cloud for cost effective backup and rapid disaster recovery.
- 3 Database server backups, application server volume snapshots, and Amazon Machine Images (AMI) of the

recovery servers are stored on **Amazon Simple Storage Service** (Amazon S3), a highly durable and cost-effective data store. AMIs are pre-configured operating system and application software that are used to create a virtual machine **Amazon Elastic Compute Cloud** (Amazon EC2). Oracle databases can directly back up to Amazon S3 using the **Oracle Secure Backup** (OSB) Cloud Module.

- 4 In case of disaster in the corporate data center, you can recreate the complete infrastructure from the backups

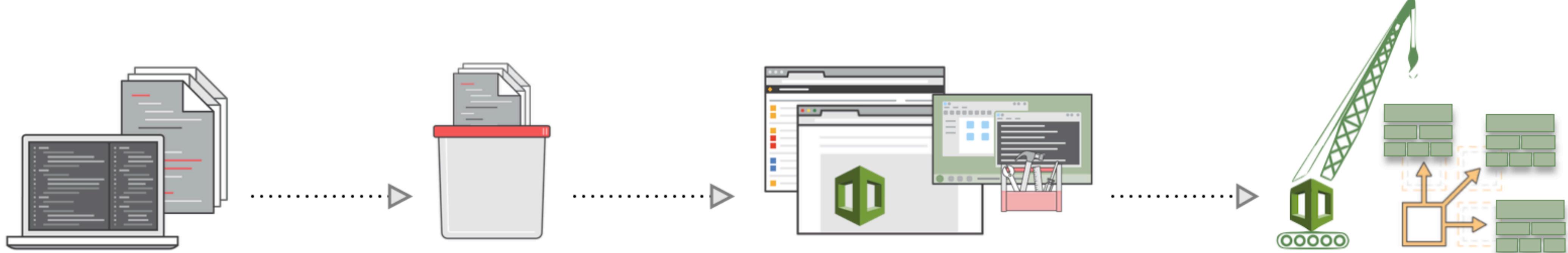
on **Amazon Virtual Private Cloud** (Amazon VPC). **Amazon VPC** lets you provision a private, isolated section of the AWS cloud where you can recreate your application.

- 5 The application and database servers are recreated using **Amazon EC2**. To restore volume snapshots, you can use **Amazon Elastic Block Store** (EBS) volumes, which are then attached to the recovered application server.

- 6 To remotely access the recovered application, you use a VPN connection created by using the VPC Gateway.



# Infrastructure as a Code



*Code your infrastructure from scratch with the CloudFormation template language, in either YAML or JSON format, or start from many available sample templates*

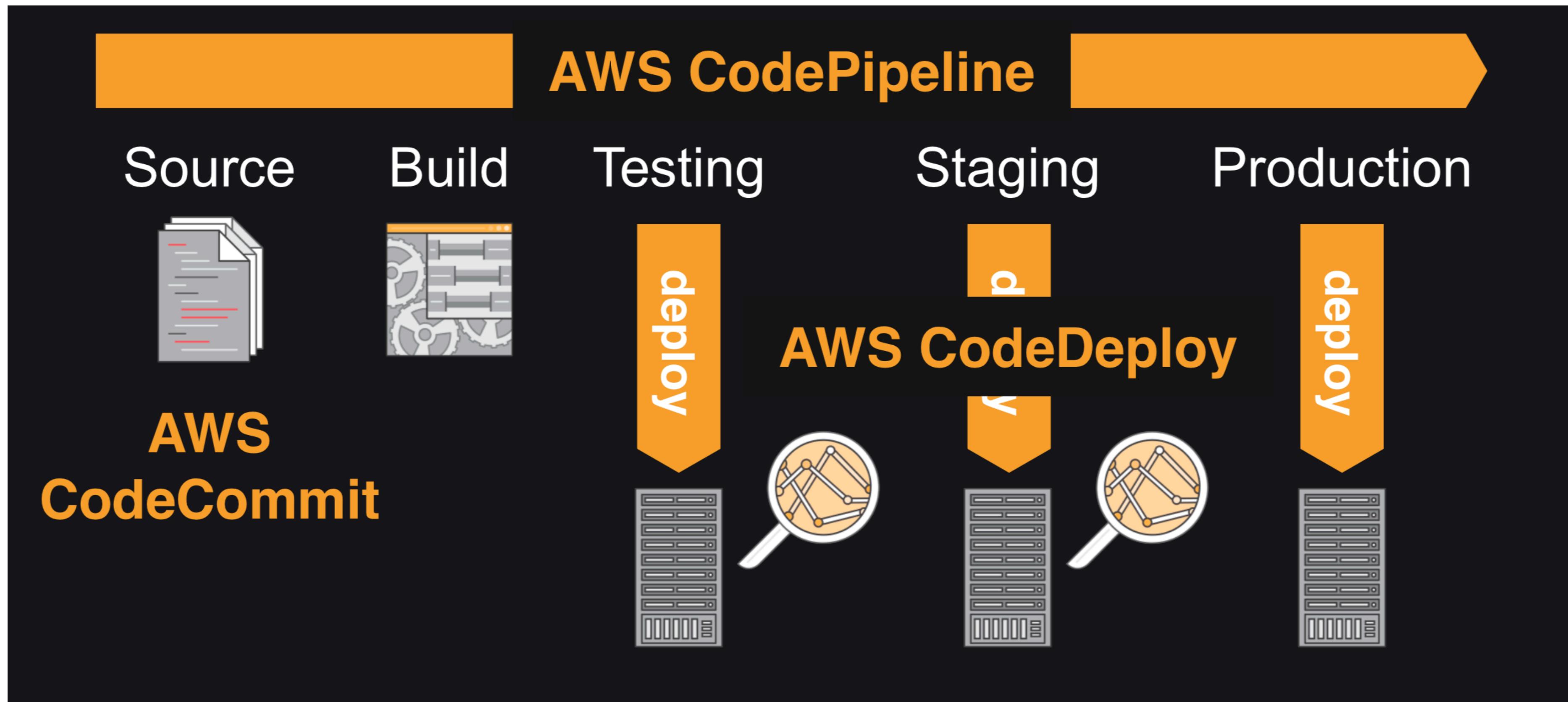
*Check out your template code locally, or upload it into an S3 bucket*

*Use AWS CloudFormation via the browser console, command line tools or APIs to create a stack based on your template code*

*AWS CloudFormation provisions and configures the stacks and resources you specified on your template*

Eso en infraestructura, pero ¿y DevOps?

# Toolkit de CI/CD en AWS



# AWS Code partners

**GitHub**

 **Atlassian**

 **Jenkins**

 **CloudBees**

 **Solano Labs**

 **Apica**

 **BlazeMeter**

 **circleci**

 **Travis CI**

 **CODESHIP**

 **Runscope**

 **XebiaLabs**  
Deliver Faster

 **Ghost Inspector**

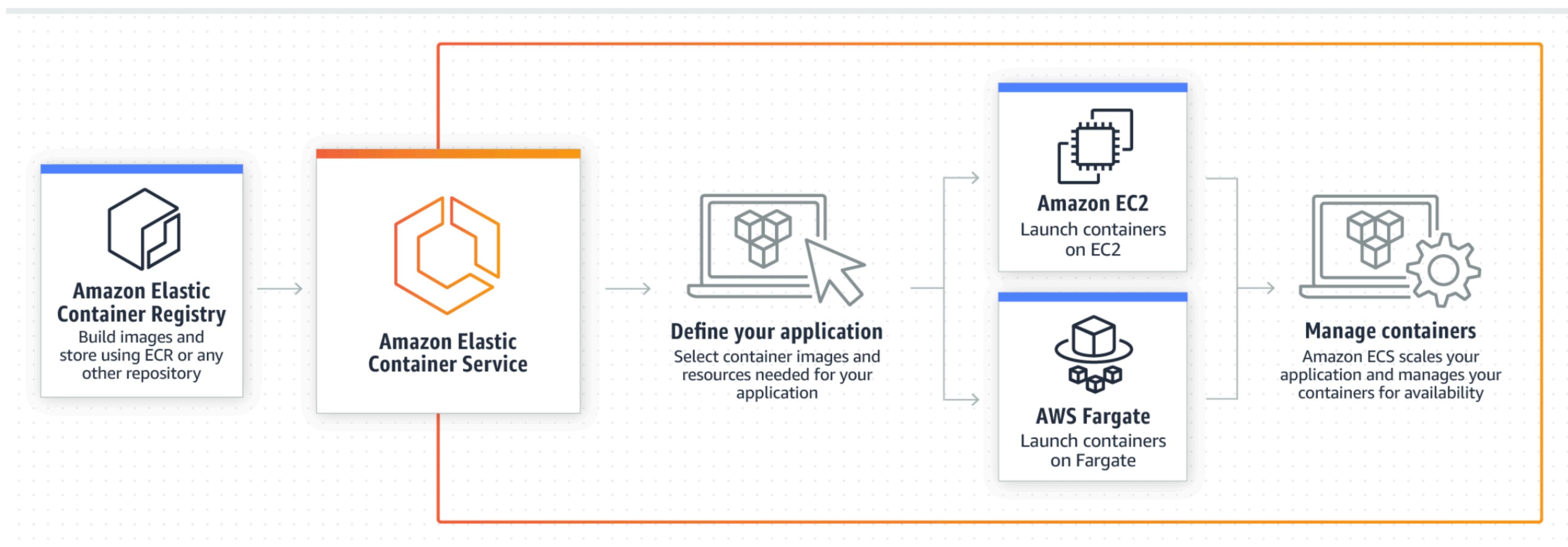
 **CHEF™**

 **puppet  
labs®**

 **ANSIBLE**

 **SALTSTACK**  
19

# Contenedores y Microservicios



# Aprovisionamiento rápido de aplicaciones - ElasticBeanstalk

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- Packer Builder
- Single Container Docker
  - Java con Tomcat
- Multicontainer Docker
  - .NET en Windows Server con IIS
- Preconfigured Docker
  - Node.js
  - PHP
  - Python
  - Ruby
- Go
- Java SE

# ¿Cómo pago?

- Metered
- Metered & Tiered

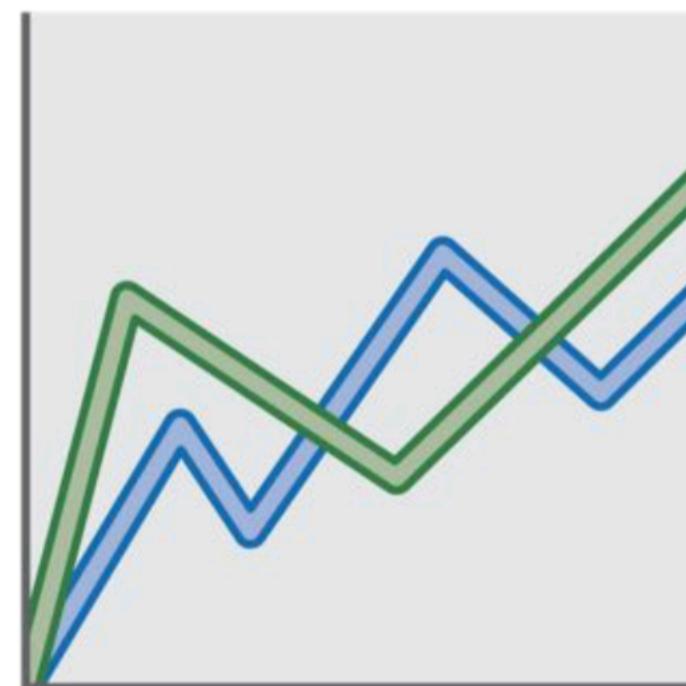


# Tipo de pago en instancias de cómputo

## Bajo demanda

Pague por la capacidad de cómputo **por segundo** sin compromisos a largo plazo

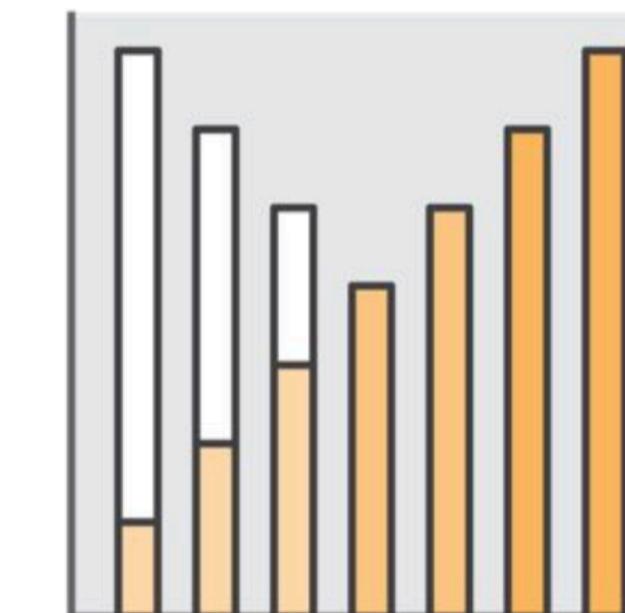
Para cargas de trabajo con picos de demanda o necesidades por definir



## Reservadas

Realice un compromiso de 1 a 3 años y reciba un **descuento importante** respecto de los precios bajo demanda

Para uso estable y confirmado



## Spot

Capacidad extra de EC2 con **ahorros de hasta el 90 %** respecto de los precios bajo demanda

Para cargas de trabajo con tolerancia a errores, sin estado, de desarrollo y prueba, con flexibilidad temporal



# Algunos casos en Colombia

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- [https://www.youtube.com/watch?v=7w0oXroLHK8&list=PLQHh55hXC4yp6KsJ\\_Eqm6hmb0e61mnDFZ&index=11](https://www.youtube.com/watch?v=7w0oXroLHK8&list=PLQHh55hXC4yp6KsJ_Eqm6hmb0e61mnDFZ&index=11)
- [https://www.youtube.com/watch?v=g8J2Q4Un9Hs&list=PLQHh55hXC4yp6KsJ\\_Eqm6hmb0e61mnDFZ&index=12](https://www.youtube.com/watch?v=g8J2Q4Un9Hs&list=PLQHh55hXC4yp6KsJ_Eqm6hmb0e61mnDFZ&index=12)

# **Q&A**