



FINANCIAL SERVICES

Cloud Transformation: La clave del éxito

Oscar Cortés
Business Development México
AWS

In Financial Services, customer expectations are driving cloud adoption

50%

of insurers are **replacing** or making major upgrades in **analytics, portals, and core systems**¹

62%

of insurance CEOs say **changing customer expectations and experiences** is the most impactful industry trend³

80%

of insurers are more likely to **retain customers** by offering consistently **best-in-class customer service**²

55%

Financial institutions expect to **increase the number of applications that run on the cloud to 55%** within 2 years

5-10 years

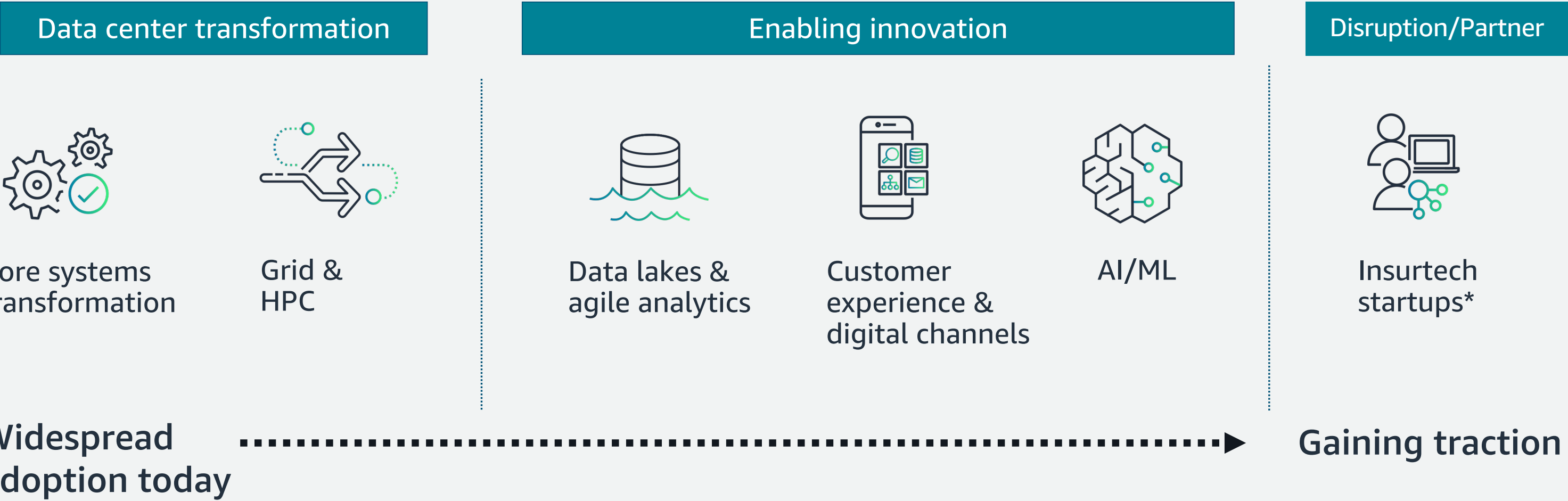
Current **disruptive trends** are necessitating digital transformation, potentially **threatening the survival of incumbent financial firms** over the next 5-10 years

86%

of Business and IT leaders report **an increase in volume and/or scope of their cloud initiatives** since 2020



Cloud is enabling transformation and innovation in Insurance



* Including potential generative AI use cases

Sample areas for innovation driving core modernization

FRICTIONLESS EXPERIENCE

Seamless channel
<i>HOW MIGHT WE</i> offer rapid real-time answers to customer requests with highly personalized processes?
Customer experience
<i>HOW MIGHT WE</i> leverage a unified consumer record (UCR) to improve our policyholder's experience?
Claims verification
<i>HOW MIGHT WE</i> streamline the claims experience while making it more transparent and less stressful for the policyholder?

GROW PROFITABLE PREMIUMS

Automate processes
<i>HOW MIGHT WE</i> automate processes, such as document ingestion, to increase capacity and reduce costs for FNOL, quoting, and underwriting?
Personalize underwriting
<i>HOW MIGHT WE</i> use real-time points of interaction to dynamically adjust premiums and actively engage consumers?
Risk transfer to mitigation
<i>HOW MIGHT WE</i> use risk-reducing technologies and predictive analytics to advise policyholders and move from claim payouts to loss avoidance?

MAKE PRODUCTS ACCESSIBLE TO MORE CUSTOMERS

Embedded ecosystems
<i>HOW MIGHT WE</i> extend systems to existing and new ecosystem partners to help drive organic and net-new premium growth?
Responding to change
<i>HOW MIGHT WE</i> ensure that the organization can go about their business when the environment holds the potential to change quickly?
Financial wellness
<i>HOW MIGHT WE</i> help reinvigorate the value of "protection" and help once again elevate insurance in the context of financial wellness?



A new wave of innovation in Insurance

FRictionless Experience

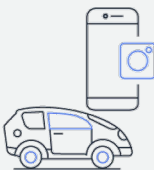
Seamless channel
Customer experience
Claims verification



A next Omni-channel experience generation



Liveness Detection



Car Damage Detection

GROW PROFITABLE PREMIUMS

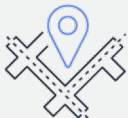
Automate processes
Personalize underwriting
Risk transfer to mitigation



Automatic analysis of documents in Underwriting and Claims (Arq. Ref.)



Simplifying documentation by image recognition (Arq. Ref.)



Intelligence for property underwriting (Arq. Ref.)



IoT improving security (Arq. Ref.)

MAKE PRODUCTS ACCESSIBLE TO MORE CUSTOMERS

Embedded ecosystems
Responding to change
Financial wellness



Open Insurance y Blockchain



Connected Devices



Fraud detection and prevention



Churn detection



Analysis of medical documents for Underwriting and Claims

Physician notes and health records are used extensively for Life product underwriting. This information often comes into the carrier as imaged documents.

- Carriers can use AWS Textract to capture and process the data from the medical document without requiring a standard document format
- Allows a level of AI-driven automation, with the focus of Underwriters and Claims adjustors targeted to the more complex and anomalous medical result cases
- Fraud analytics can analyze the detailed medical information to better manage risk and claim outcomes



Simplicity for documenting and evaluating insured assets

Mobile devices simplify customer interactions for documenting insured assets and provide detailed insights into coverables and risk profile:

- Customers can catalog their insurable assets with their mobile camera or video security monitors
- Total insurable asset values can be calculated and provide customers with recommendations for adequate coverage levels
- Customers can easily adjust coverage selections based on new purchases and changes in usage



IoT Analytics improves safety and compliance for Workers Comp

Sensors provide a detailed accounting of workplace safety and allow commercial customers to manage their risk profile:

- Capture granular work activity details: work activity, location, sudden angular movement, authorized usage adherence, etc.
- Enable the commercial workplace to monitor compliance with jobsite restrictions on tool / vehicle usage and access zone entry
- Consume detailed evidence of injury events to streamline the claims process and minimize fraudulent claims
- Publish monthly insurance billing statements that reflect actual work activity, replace time-consuming annual premium audit and true-up



Leverage images and surveillance analytics to power underwriting decisions

Image and Video Recognition dramatically enhances the information profile during the underwriting evaluation process:

- Capture granular property details via Drone surveillance
- Record and analyze property risk and threat details across several categories: storm damage, fire contagion, etc.
- Enable periodic re-surveillance of high risk / high density areas for use during renewal processing



Property Details	
Roof Type:	Gable
Roof Material:	Shingle
Roof Area:	1470 sq ft
Roof Quality:	Good
Property Type:	Corner Lot
Pool:	No
Fence:	No

Threat Details	
Damage	30 ft tree grove, 20 ft away from NE corner of attached garage
Damage:	40 ft tree, 30 ft from SE corner of attached garage
Fire:	10 ft to nearest structure, located to north along major axis



Insurance companies of all sizes are transforming on AWS



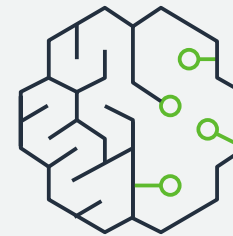
Chisel AI helps commercial insurers automate processes with AWS



“ Our applications use Amazon Textract and Amazon Comprehend in conjunction with our own proprietary models to automate costly manual processes like document review and insurance application intake. We reduce customer effort, making it faster and easier to buy and sell commercial insurance. We are seeing great results using AWS machine learning. ”

 **Colin Toal**, Chief Technical Officer, Chisel AI

© 2023, Amazon Web Services, Inc. or its affiliates. All rights reserved. Amazon Confidential and Trademark.



Chisel AI uses AWS AI services to help commercial insurers automate and streamline operational workflows that are traditionally manual, costly, and error-prone.



The InsureTech uses Amazon Textract to extract data like policy numbers and expiration dates at scale, and Amazon Comprehend to classify and label unstructured content and identify insurance-specific entities.



With AWS, Chisel AI helps commercial insurance carriers and **brokers double their business by automating underwriting and brokering processes.**

AXA uses its data lake on AWS to develop innovative services



AXA migrated its data lake to AWS to facilitate improved analytics and digital innovation.



With its data lake built on AWS, AXA can analyze sentiment in customer service interactions in real time to deliver proactive solutions and offers.

“ Based on the digital revolution and using AWS, we are really putting the customer at the center of everything we do. ”

– **Jean Drouffe**, CEO, AXA Singapore; SDO, Malaysia, India, and Vietnam



The insurer is also able to **build new products that allow customers to apply for new policies and make claims from their mobile devices.**



AXA builds its Insurance-as-a-Service platform on AWS

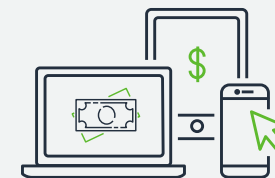


“ We’re able to leverage data that partner companies have on their customers to provide tailored products and complete transactions within the partners’ apps, websites, or backend systems. ”

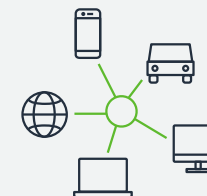
– **Tomasz Kurczyk**, Chief Transformation and Digital Officer, AXA Singapore



AXA Singapore created an Insurance-as-a-Service platform to make it easy for partner companies to offer insurance as end users are making related purchases, like booking travel, renting a car, or buying a house.



The platform lets businesses integrate home, travel, and motor insurance products and services into their online platforms through an API call. The end user is then able to add on AXA insurance coverage in a few clicks.



AXA has forged partnerships to integrate its IaaS platform into businesses, **letting customers access insurance products when and how they want them.**



John Hancock is improving the customer and employee experience



John Hancock set out to deploy a highly scalable, cloud-based contact center solution to enhance its customer experience and also support its agents.



Amazon Connect

Within 30 days, John Hancock was able to deploy a new **Amazon Connect** instance with agents in the US and APAC regions taking calls and supporting end-to-end testing.

“ Amazon Connect improved the experience our customers had with us, making communication easier and clearer. Not only is that the way we want to serve them, it also enhances the job experience of our employees. ”

– **Sebastian Pariath**, Head of Operations and Chief Information Officer, John Hancock



The solution included an Amazon Lex application to provide voice-enabled, self-service capabilities, allowing customers to **perform automated benefits and claims status checks.**



Sunday Insurance uses AWS ML to deliver low-cost premiums



“ Other cloud providers tried to lock us into their preferred machine-learning solution. However, AWS gave us the freedom to choose whatever solution we wanted. ”

– **Cindy Kua**, CEO, Sunday



Sunday wanted to apply machine learning algorithms to offer highly personalized policies at lower premiums and needed a cloud infrastructure that was highly scalable, reliable, and fast.



Sunday chose to work with AWS because it gave the company the freedom to choose the machine learning solutions it wanted and provided development kits that allow the company to automate their deployment.



By using AWS, Sunday is able to offer a wider range of insurance policies compared with traditional insurers and has seen a **30% month-on-month increase in revenue since launching in 2017.**



HDFC Standard Life uses AWS to make recommendations

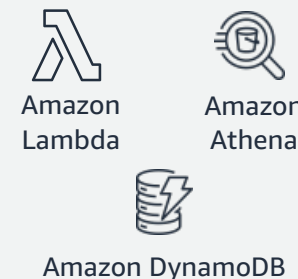


“ Our recommendations engine predicts two types of recommendations – the appropriate insurance product, and the personalized customer journey. ”

– **Sanjay Jain**, Head of Engineering, HDFC Standard Life



HFDC, one of the largest life insurance companies in India, wanted to build a recommendation engine to personalize the customer experience.



HFDC used an AWS data lake with **AWS Lambda**, **Amazon Athena**, **Amazon DynamoDB** to build a recommendation engine that could protect personally identifiable information.



The **engine recommends HDFC Life Insurance products**, or nudges customers on a personalized journey, delivered in email, push notifications, or **SMS**



Liberty Mutual redefined employee experience with AWS



“ If our employees are spending a lot of time looking things up then they’re not focused on the customer...Amazon Lex is the key part of our chatbot, because that provides natural language understanding. It’s an enterprise-scale and quality application. ”

– **Gillian Armstrong**, Technologist, Liberty Mutual Insurance



Liberty Mutual has over 50,000 employees in more than 800 offices around the world serving their customers.



The company wanted to shift employee focus from looking up customer data, to focusing directly on the customer.



Amazon Lex

Liberty Mutual used **Amazon Lex** to develop a chatbot to help employees answer questions, find information, and perform simple tasks.





Thank you!

Oscar Cortés





AI/ML solutions for Insurance

Scale business operations and
improve customer experience

Alonso Vazquez

FSI Solutions Architect

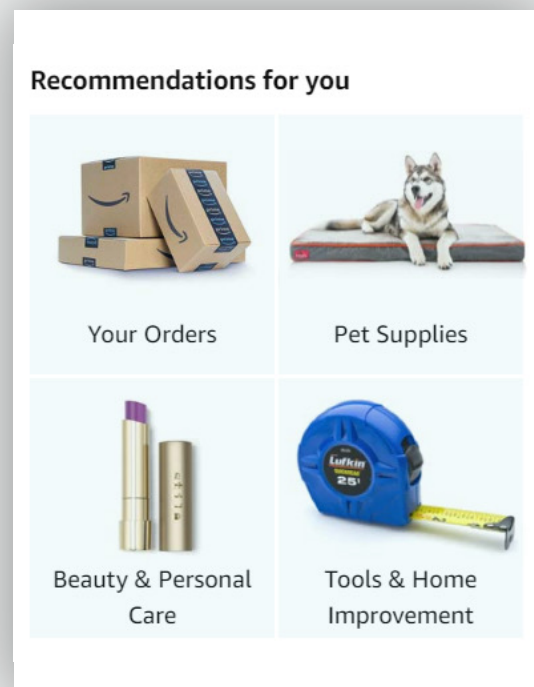
alonvaz@amazon.com

Iván González

FSI Solutions Architect

iaqui@amazon.com

ML innovation is in Amazon's DNA



**4,000 products
per minute** sold
on Amazon.com



1.6M packages
every day



Billions of Alexa
interactions each
week



Cashierless
experience using
deep learning with
Amazon Go

The AWS ML Stack

BROADEST AND MOST COMPLETE SET OF MACHINE LEARNING CAPABILITIES

For **everyday developers** that want to easily incorporate ML into their applications

AI Services

- Vision
- Documents
- Speech
- Fraud prevention
- Contact center
- Chatbots
- Intelligent search
- Forecasting
- Recommendations
- Language

Suite of pre-trained ML models that can be accessed via an API and requires no machine learning experience

For **data scientists** who want to focus on data science and not worry about managing the underlying infrastructure

ML Services (Amazon SageMaker)



End-to-end ML platform that streamlines the build, train, deploy process of ML

For **expert ML practitioners** who are comfortable building, tuning, training, deploying, and managing ML models

ML Frameworks & Infrastructure



TensorFlow



PyTorch



mxnet

Full control over the infrastructure and supports all major ML frameworks



More than 100,000 customers use AWS for ML



BBVA selects AWS to accelerate its data-driven transformation

Banco Bilbao Vizcaya Argentaria, S.A. (BBVA), a global banking leader, will use AWS to deliver advanced analytics and data services in the cloud, taking a decisive step in its data and artificial intelligence transformation process. As part of its transformation into a data- and AI-driven organization, BBVA will use AWS to harness analytics and machine learning to transform its internal processes, improve risk management, drive growth, and provide innovative solutions for its customers.



© 2023, Amazon Web Services, Inc. or its affiliates. All rights reserved. Amazon Confidential and Trademark.

How AI/ML is applied in Insurance



Personalized rates

Root uses Amazon SageMaker to price car insurance based on how people actually drive, analyzing the telemetry from mobile phones and helping good drivers save up to 52% on car insurance.



Cross-selling

By partnering with the Amazon ML Solutions Lab, Edelweiss Tokio Life Insurance developed a cross-sell propensity model and a policy recommendation model which increased their cross-sell rate by 200%.



Claims processing

nib integrated Amazon Textract to reduce manual data entry and speed up claims processing, saving an average of 20 seconds handling time per claim by extracting and pre-filling data with accuracy of 87% to 95%.



Customer experience

Unum built an omnichannel customer engagement platform using AWS services, including Amazon Connect, Amazon Pinpoint, and Amazon Lex.

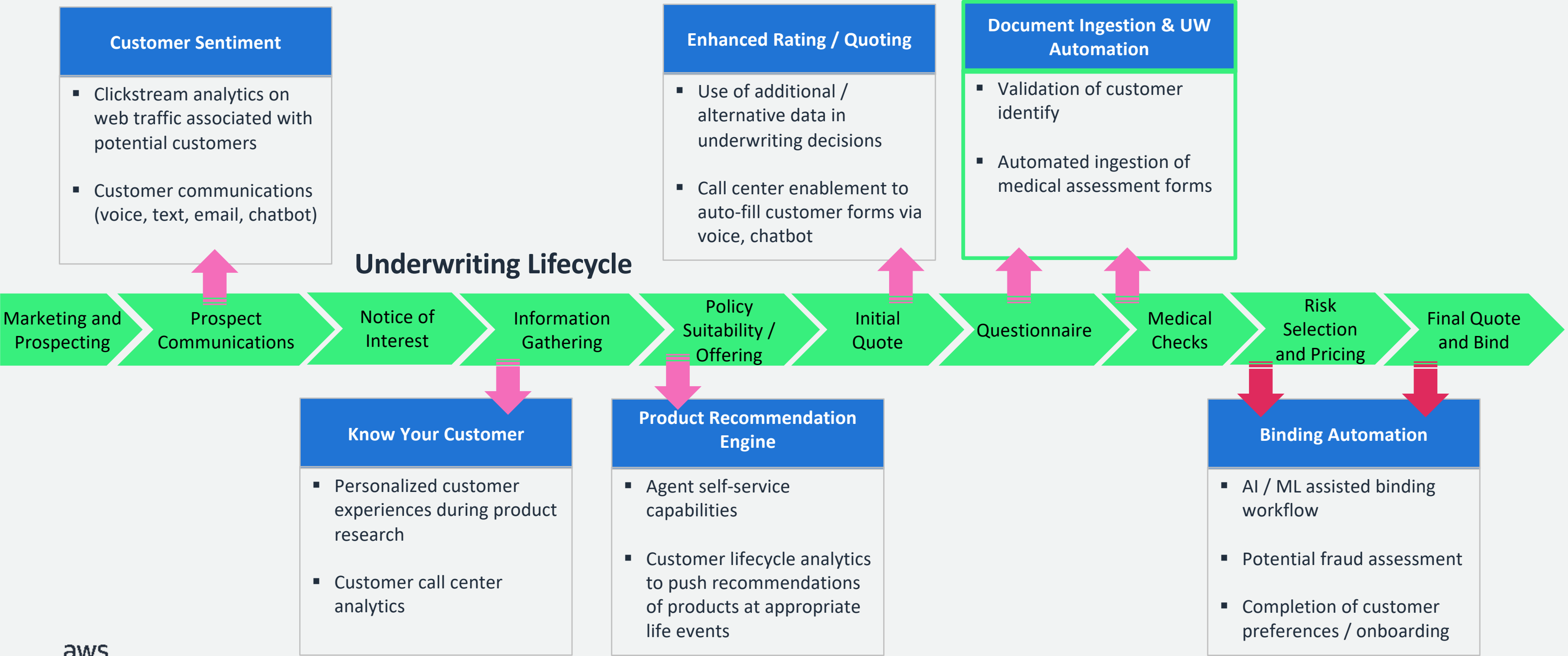


Fraud detection

State Auto increased claims reviewed for potential fraud by 83%, mitigated an estimated \$800K in service operating expenses, and facilitated detection of fraud 3 days earlier using AI/ML, including Amazon Transcribe and Rekognition.



Opportunities exist to use better data analytics and AI/ML



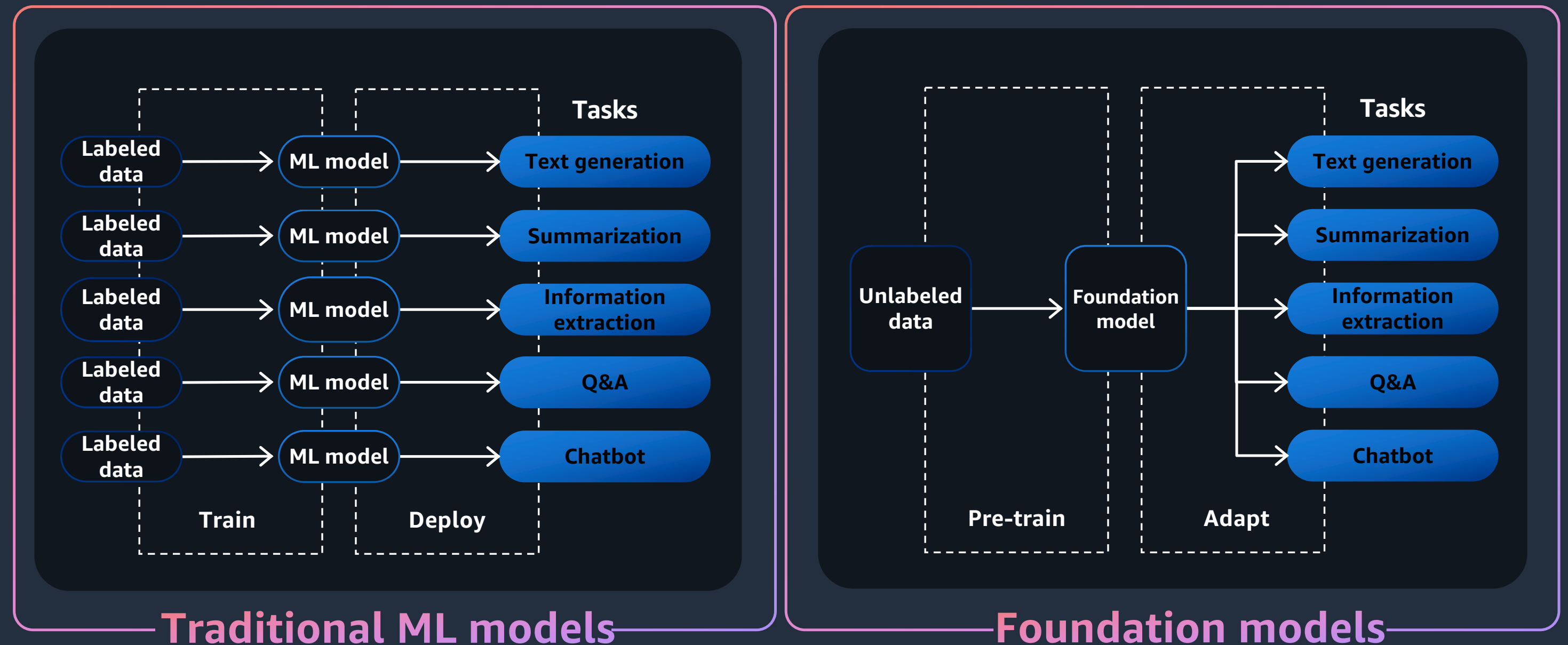
Generative AI on AWS



Question: What is generative AI?

- Creates new content and ideas, including conversations, stories, images, videos, and music
- Powered by large models that are pretrained on vast corpora of data and commonly referred to as foundation models (FMs)

How foundation models differ from other ML models

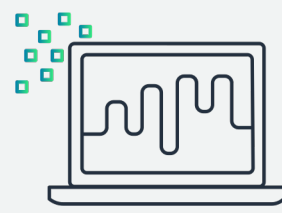


Speed, scalability, and flexibility: Our approach to GenAI



Customizability based on your use case

Choose and customize the right FM for your use case, ensuring optimal performance and cost



Flexibility

Accelerate development of GenAI applications, testing and using multiple FMs through a single API, without managing infrastructure



Reliable, best-in-class infrastructure

AWS and Amazon bring 20+ years of AI/ML experience with proven security features and the widest range of compute instances, GPUs, and custom silicon for AI/ML



Data security and governance

Privately customize FMs using your organization's data and rely on established AWS services for model and data governance, and maintain version control (MLOps)



The AWS Generative AI stack gives Financial Services customers the flexibility to choose the way they want to build

APPLICATIONS

Amazon CodeWhisperer

- Developer productivity

MANAGED SERVICE

Amazon Bedrock

- Fully managed service, multi-tenant with API access
- By default is not trained on customer data and prompts
- Achieve domain adaptation mainly by providing custom data through the prompt

MODEL BUILDING & TRAINING

Foundation Models on Amazon SageMaker

- Choose to build from scratch (e.g. Bloomberg, AI21) or fine-tune / incrementally train existing FM's
- Single tenant. Fully deploy models within customers' own account and VPC
- Achieve additional domain adaptation by providing custom data through the prompt

INFRASTRUCTURE

AWS
Inferentia

AWS
Trainium

GPUs

Amazon EC2
instance types

Easiest way to access pre-trained Foundation Models (FMs). Single API framework provides access to multiple models

Most flexible approach to fine-tuning pre-trained FMs. Requires model deployment on large instance types in customer's account

Wide range of infrastructure choices for cost and performance optimization

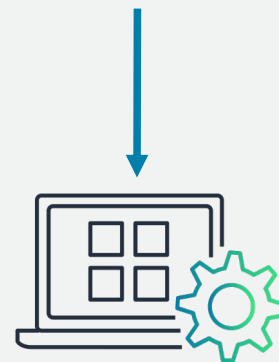


Access pre-trained Foundation Models on SageMaker

1 Choose foundation models offered by model providers



2 Try out the model and/or deploy

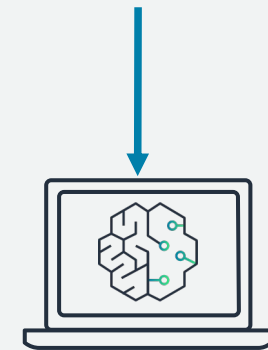


Experiment using AWS console UI

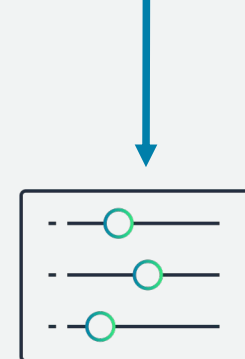


Deploy the model for inference on SageMaker

3 Fine tune the model and automate ML workflow



Selected models can be fine-tuned using SageMaker Model Tuning



Automate ML workflow

Amazon Bedrock supports leading foundation models



Amazon Titan

Text summarization, generation, classification, open-ended Q&A, information extraction, embeddings and search



Jurassic-2

Multilingual LLMs for text generation in Spanish, French, German, Portuguese, Italian, and Dutch



Claude

LLM for conversations, question answering, and workflow automation based on research into training honest and responsible AI systems



Stable Diffusion

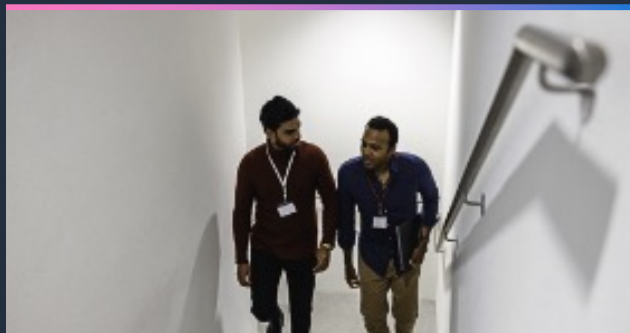
Generation of unique, realistic, high-quality images, art, logos, and designs

Note: Additional models also available through Amazon SageMaker JumpStart



Generative AI use cases in Financial Services

Improve customer experience



Accelerate response to questions with search and summarization

Leverage repository of customer interactions with summarization and queries

Create knowledge articles from disparate internal sources

Increase the efficiency of knowledge workers



Quickly draft investment research, loan documentation, insurance policies, regulatory communications, RFI's, business correspondence

Increase business value of unstructured content

Understand market and customer sentiment



Generate customized sentiment analysis for investment portfolios

Summarize new themes and surface new investment opportunities and risks

Build new products and automate business processes



Create on-demand structured data products from large unstructured data sources

Enhance productivity tools for end-users

Improve developer productivity with automatic code generation

“Traditional” AI/ML is still going strong

FINANCIAL INSTITUTIONS ARE INCREASINGLY INVESTING IN AI/ML BECAUSE IT IS COST-EFFECTIVE, EASY-TO-USE, AND SCALABLE USING CLOUD INFRASTRUCTURE



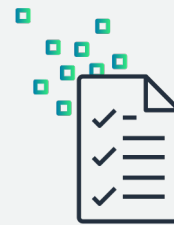
Customer Experience

- Streamline customer onboarding and KYC
- Enhance customer service with chatbots
- Call center optimization & call routing
- Maintain context by tracking topics across omnichannel customer interactions



Personalization

- Forecast the needs of customers and personalize recommendations
- Tailor products for individual customers
- Robo advisory



Text Analytics

- Extract key information from:
 - forms
 - regulatory filings
 - social media
 - news
- Sentiment analysis
- Topic classification & email routing



Predictive Analytics

- Portfolio management & algo trading
- Securities lending
- Probability of default
- Customer churn
- Image analysis
- Risk grid optimization



Fraud detection and prevention

- Identity verification
- Payment fraud detection
- Transaction surveillance
- AML/sanctions
- Domain squatting



Thank you!

Alonzo Vázquez

FSI Solutions Architect

alonvaz@amazon.com

Iván González

FSI Solutions Architect

iaqui@amazon.com



Modernización de aplicaciones

Y por que es un diferenciador para las organizaciones

Rodrigo Cabrera

Sr Solutions Architect

rodcab@amazon.com

¿Porqué estamos aquí?

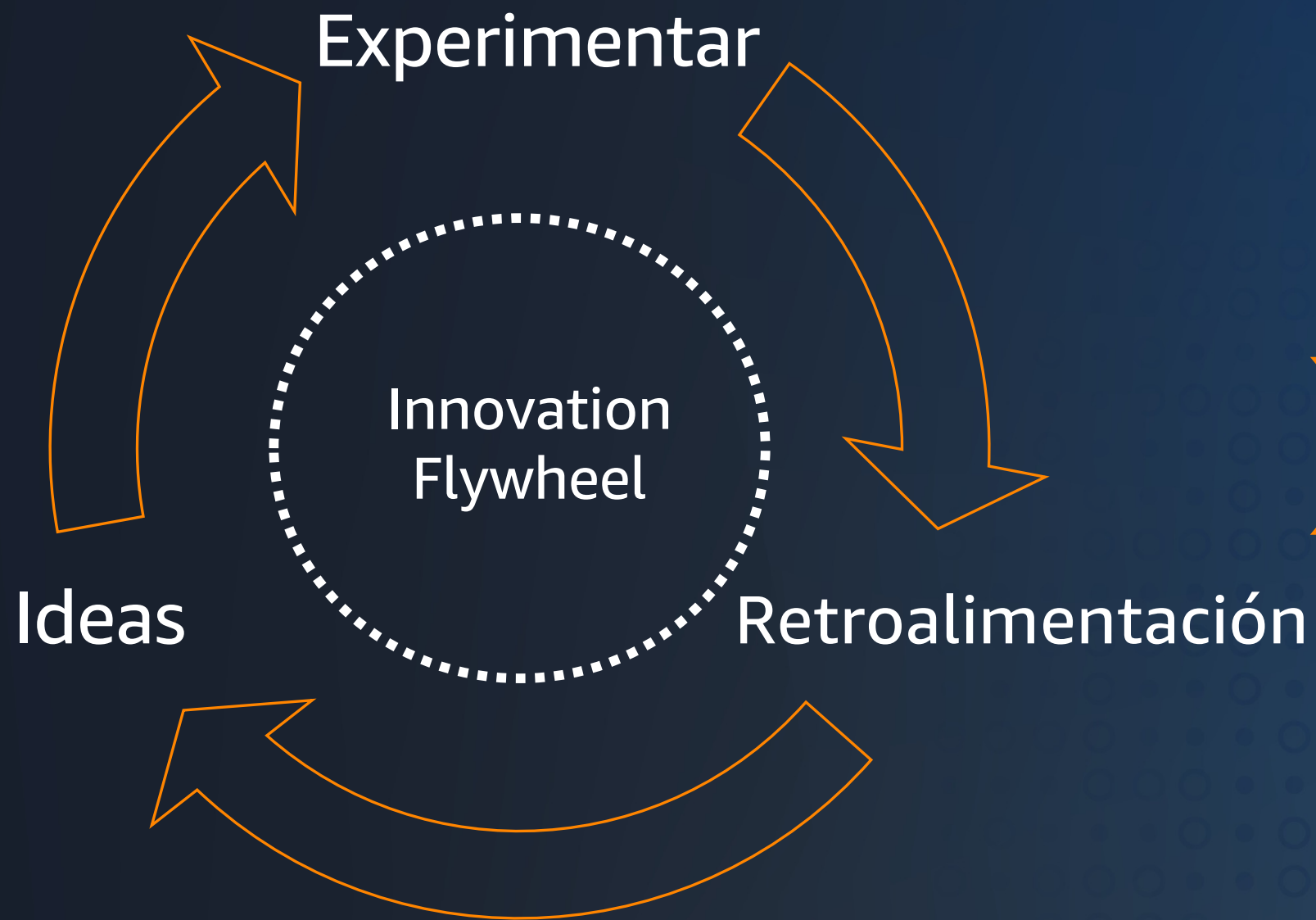


CIOs creen que el **80%** del tiempo de los equipos de devops se pasan **operando y manteniendo las aplicaciones** y solo **20%** del tiempo realmente estan innovando

Agenda

- Por qué es importante hablar de modernización
- ¿Qué necesitamos para modernizar nuestras aplicaciones?
- Eligiendo una aplicación
- Siguiendo pasos

Para mantener la ventaja competitiva, los negocios deben innovar lo más rápido posible



Implicaciones para TI

- Arquitecturas modulares
- Ciclos de lanzamiento más rápidos
- Unidades más pequeñas, menores riesgos
- Mejoramiento continuo de sistemas
- Información basada en datos
- Automatización

**En el futuro, los desarrolladores
unicamente escribirán lógica de
negocio**

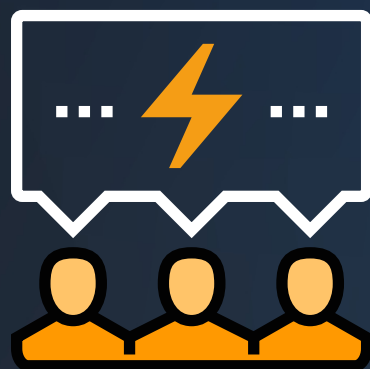
Un cambio multi-dimensional



Personas



Arquitectura



Cultura



Tecnología

Personas



Lo que se libera a producción es el
(mal)entendimiento de los
programadores y no el conocimiento
de los expertos del dominio

- Alberto Brandolini
- Autor de *EventStorming*

UPDATE THIS PRESENTATION HEADER IN SLIDE MASTER

Soporte del equipo de liderazgo

CLAVE PARA EL ÉXITO DE LA ORGANIZACIÓN

Definir y comunicar la visión y estrategia de negocio

Sea agresivo con el establecimiento de metas y dirija de arriba hacia abajo

Sea específico con todos los equipos responsables

Ser estrictos en el objetivo pero flexibles en la ejecución



© 2023, Amazon Web Services, Inc. or its affiliates.



Tiger teams

- Tiger team describe a un grupo de expertos que se juntan para conseguir que exista innovación en las compañías

Líder

- Pensamiento estratégico
- Comunicación
- Manejo y liderazgo de equipo
- Change management
- Experto del contexto del negocio

Product Owner

- Son responsables del día a día del desarrollo del producto
- Trabajan cerca con el equipo de desarrollo.
- Se aseguran que la visión del desarrollo se alinea a la visión del producto

Arquitecto

- Responsables de tomar decisiones de diseño de alto nivel
- Se aseguran que los sistemas cumplan con las necesidades funcionales y no funcionales

Product manager

- Tienen conocimiento avanzado en CX, market trends y mejores prácticas de industria.
- Se consideran como SMEs trabajando con equipos interdisciplinarios que incluyen ventas, marketing y operaciones.

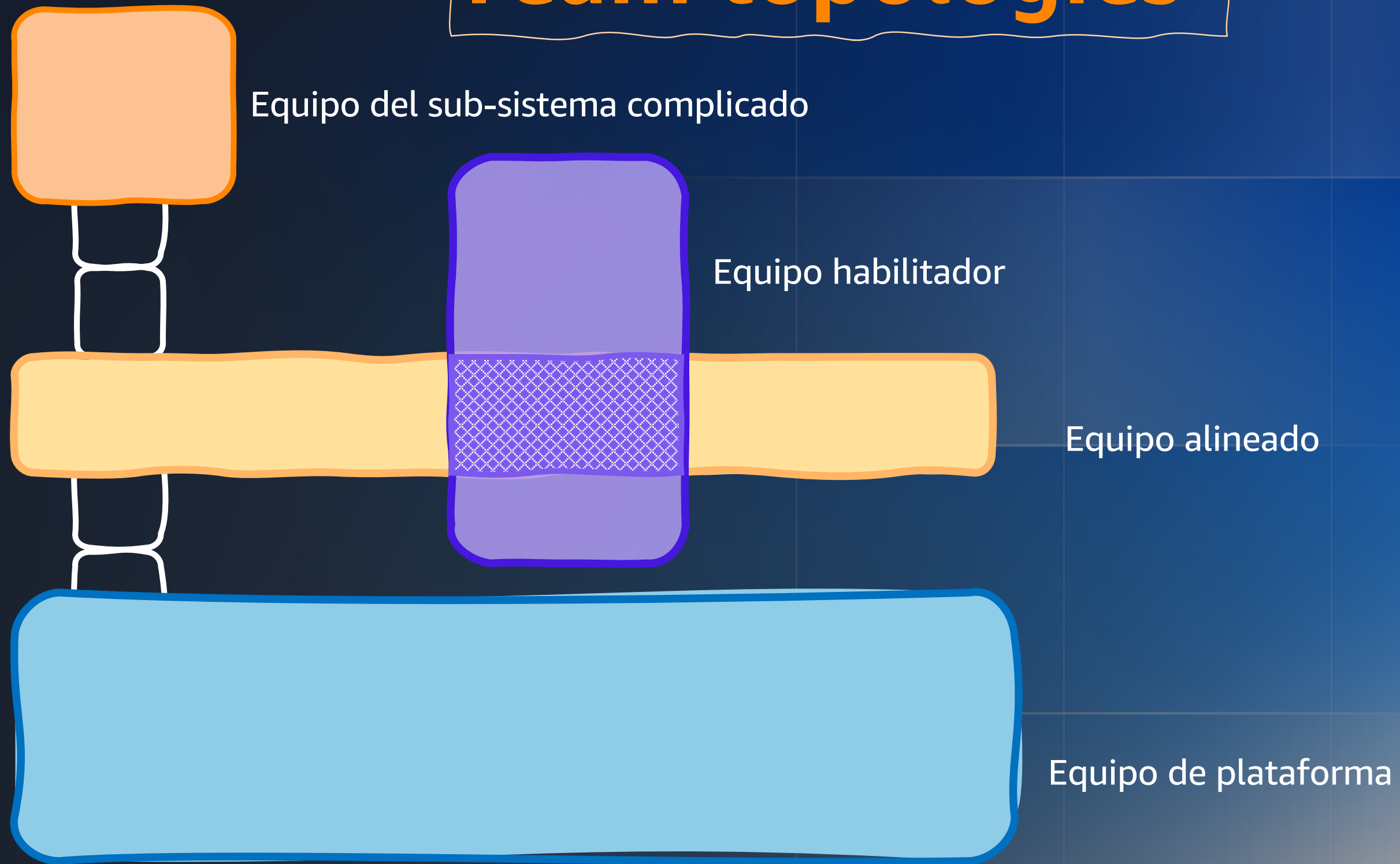
Lider DevOps

- Se enfocan en automatizar, en la mejora continua, y en salir a producción de manera rápida y con altos estándares.

**Líder de ingeniería,
desarrolladores, testers,
equipo de seguridad.**



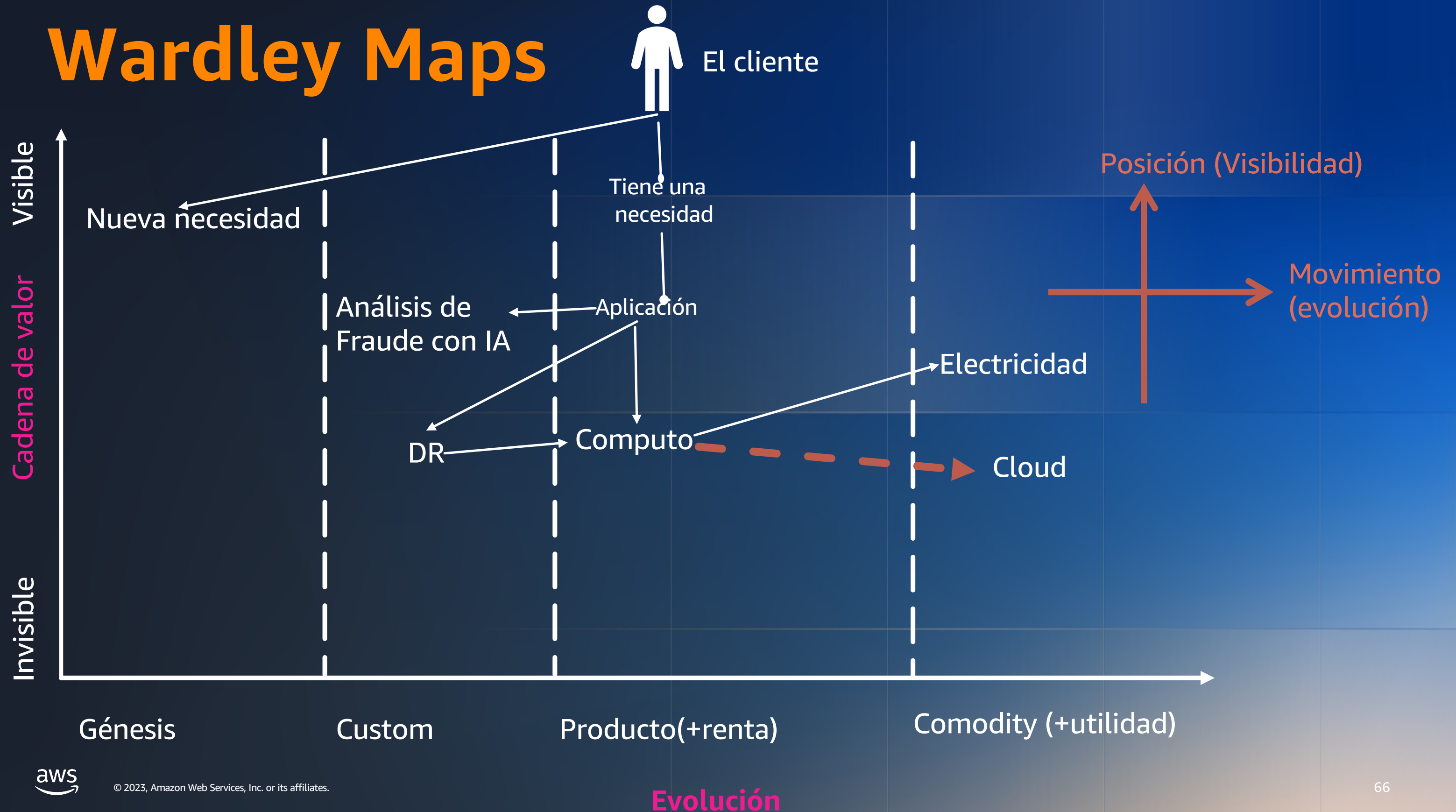
Team topologies



Wardley Maps

- Visualización de sistemas y como cambian
- Patrones de cambio dentro del capitalismo
- Framework estratégico explotando estos patrones

Wardley Maps



Cultura



UPDATE THIS PRESENTATION HEADER IN SLIDE MASTER

Formando el equipo

CARACTERÍSTICAS DEL EQUIPO FUNDADOR

- **Impulsado por la experimentación:** capaz de aprender de fallas e iterar rápidamente
- **Audacez:** no tiene miedo de desafiar el status quo
- **Orientado a resultados:** puede llevar una idea de su fase de ideación a una implementación exitosa
- **Enfocado al cliente:** aprecia el impacto de la productividad de los desarrolladores y la excelencia operativa
- **Capaz de influir:** puede escalar sus habilidades a través de otros



© 2023, Amazon Web Services, Inc. or its affiliates.

Escalando la modernización en toda la organización

Formar CCOE

Formar el Centro de Habilitación de la Nube

1

Ganar rápido

Entregar cargas de trabajo estratégicas modernizadas "light house"

2

Apoyo de los líderes

Establecer una visión clara y el apoyo desde el liderazgo

3

Mejores prácticas

Cree patrones reutilizables, arquitectura de referencia y servicios compartidos

4

Evangelizar

Construcción, habilitación y evolución de la comunidad

5

Reorganizar

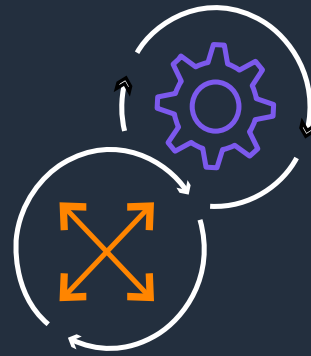
Descentralizar la función de CCOE y federar en toda la organización

6

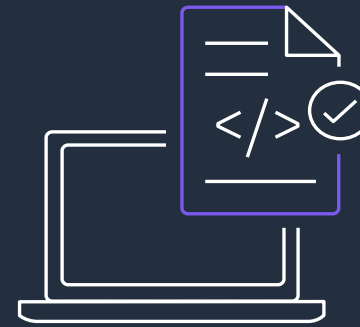
Establecer principios operativos



Mejores
prácticas de
seguridad



Observabilidad,
monitoreo y tala



DevOps y CI/CD



Estrategia de
gestión de costos



Estrategia de
pruebas



Edificio
comunitario



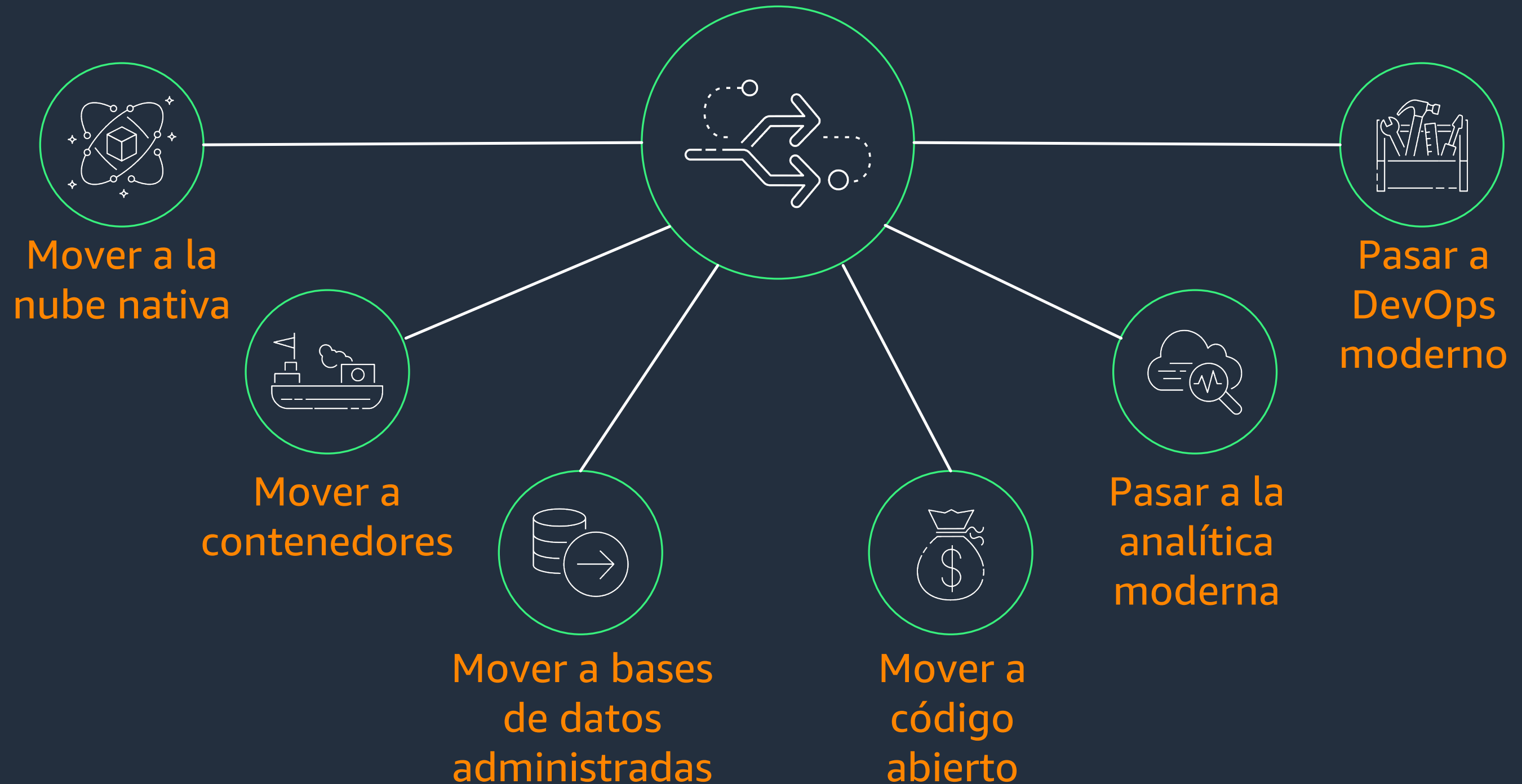
Patrones de
arquitectura



Transformación de
bases de datos

UPDATE THIS PRESENTATION HEADER IN SLIDE MASTER

Agiliza y coordina con estos caminos de modernización



© 2023, Amazon Web Services, Inc. or its affiliates.

¿Qué arquitectura elegir?



Algunos mitos que nos encontramos

- La red siempre está disponible
- La latencia es inexistente
- No hay límite de ancho de banda
- El costo de comunicación es 0

¿Cuál es mejor para mi caso de uso?

Microservices Architecture

Clean Architecture

Event-Driven Architecture

Hexagonal Architecture

Service Based Architecture

Monolithic Architecture



Características	Valor		
Tipo de partición	?		
Cantidad	?		
Dificultad de despliegue	?		
Elasticidad	?		
Facilidad para evolucionar	?		
Resiliencia	?		
Modularidad	?		
Costo total	?		
Performance	?		
Disponibilidad	?		
Escalabilidad	?		
Simplicidad	?		
Facilidad de probar	?		



Tecnología



-Crea aplicaciones (**soluciones**),
no infraestructura-

Beneficios que ya conocemos..

31% reducción de costos de infraestructura

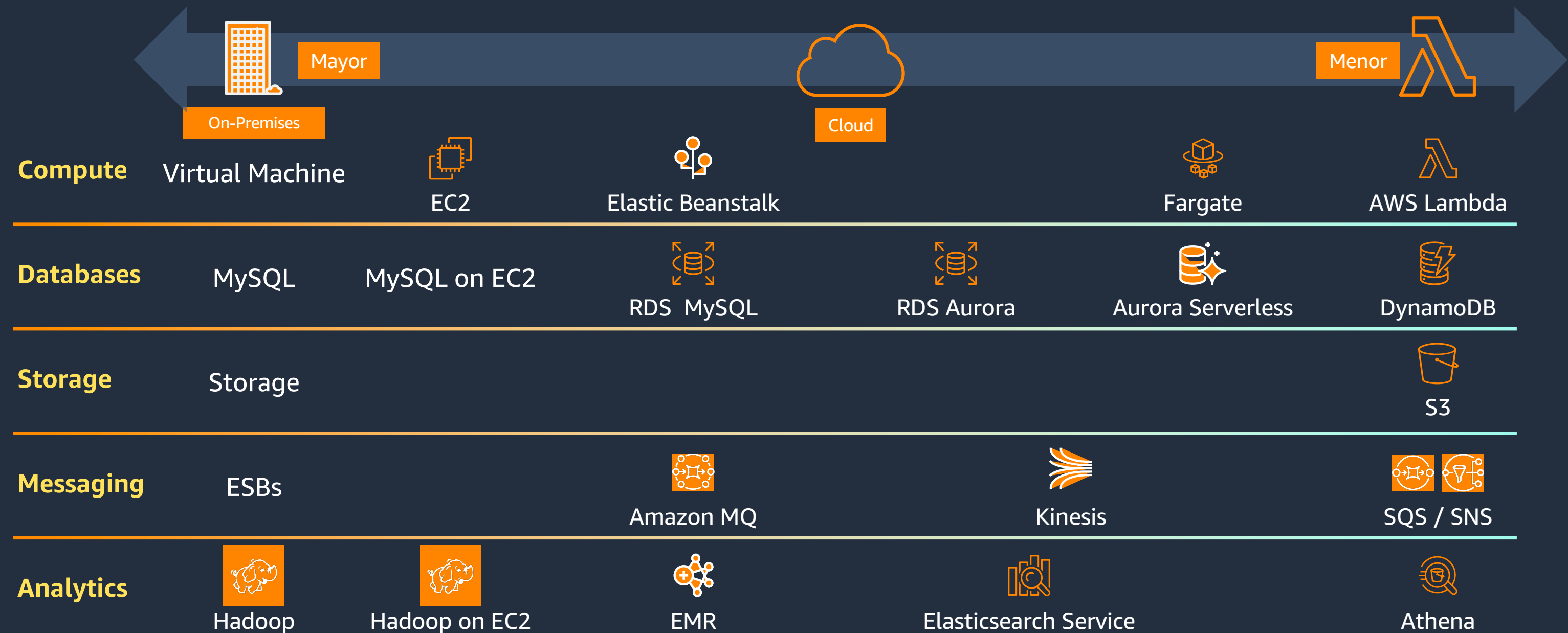
94% menor tiempo sin servicio

62% de aumento de Productividad de equipos de IT

3x mayor número de despliegues productivos Anuales.

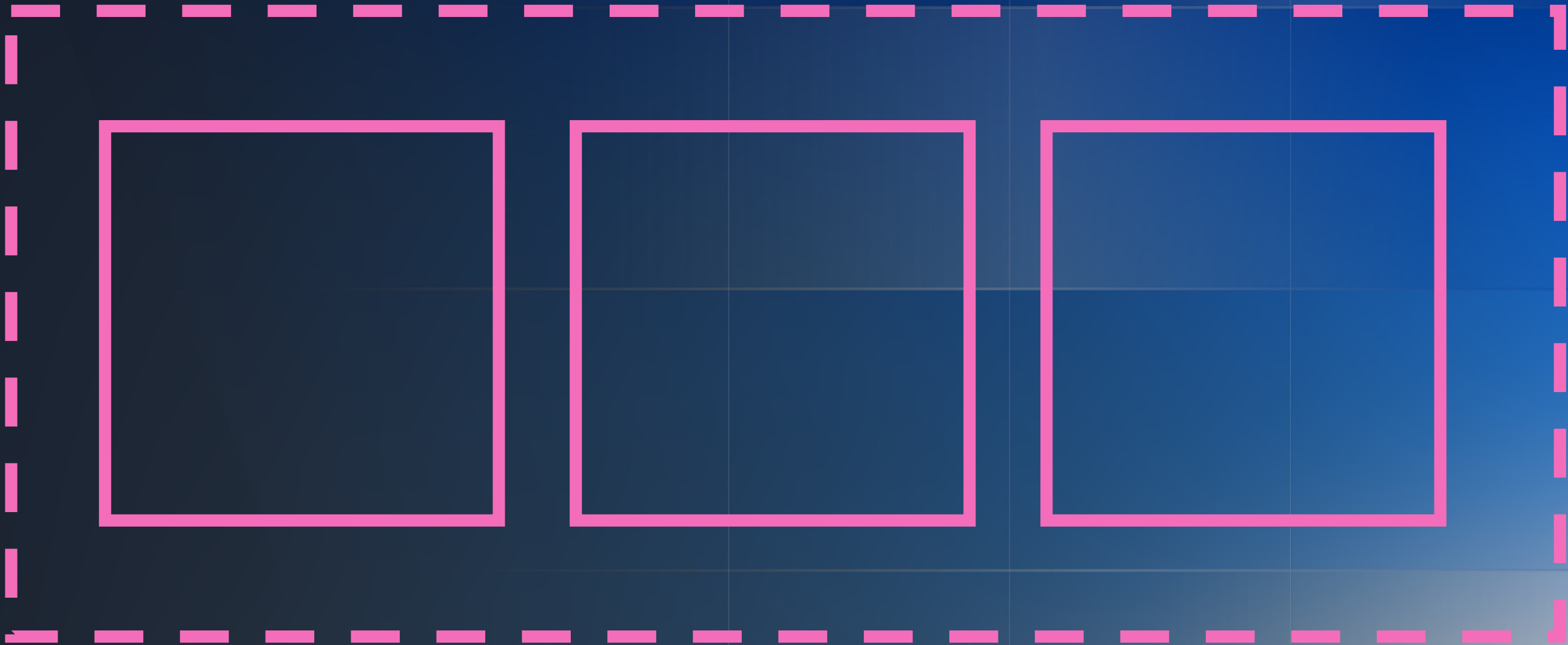


Responsabilidad operacional del cliente



Eligiendo mi aplicación..

Descomponiendo un sistema



Dominios del negocio

CORE

SUPPORTING

GENERIC



Dominios del negocio

CORE

- Diferenciador principal del negocio
- Contruir en vez de comprar
- Retroalimentación rápida
- Inversión fuerte de la organización

Dominios del negocio

SUPPORTING

- No da ventaja competitiva
- A veces construir, otras comprar
- Los cambios no son tan comunes
- Menor inversión de la organización

Dominios del negocio

GENERIC

- Necesarios pero no son los diferenciadores del negocio
- Comprar en vez de construir
- Soluciones listas para implementar
- Outsourcing

Siguientes pasos...





Aplicación que modernizaremos



Tecnología



Arquitectura



Personas



Tecnología



Cultura

Habilitación de AWS

AWS Professional Services

Equipos expertos para la implementación de proyectos y complementar tus equipos internos

Soporte de AWS

AWS Marketplace

Catálogo curado de software, servicios y productos de datos

Servicios administrado AWS

AWS Training & Certification

Mejore los skills de sus equipos con los habilitamientos por expertos de AWS

APN Partners

Red global de Partners habilitados con un conocimiento profundo en AWS





Thank you!