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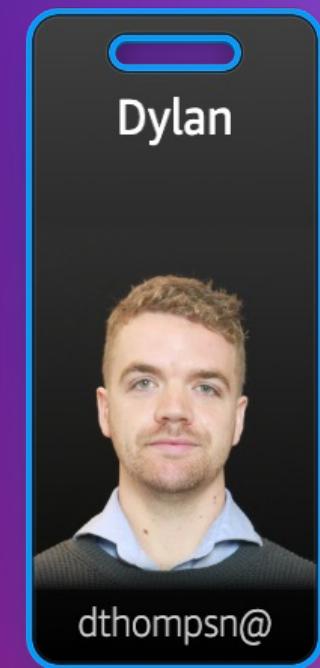
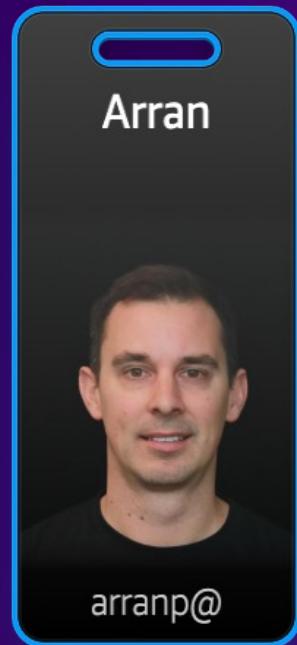
Amazon Web Service

Day 1 - Cloud & Careers

Arran Peterson (He/Him)

Solutions Architect (ANZ)
Amazon Web Services

The AWS Team





Survey



<https://www.pulse.aws/survey/RGVNDLCF>

Kahoot!



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Week Agenda

Monday

What Is **Cloud**?

Who is Amazon?

Career Panel Q&A

Tuesday

IoT Hackathon!

Get your hands dirty
with real devices!

Program Internet of
Things (IoT) devices
with a visual
programming interface.

Wednesday

Working with **Data**!

Visual data preparation
tools that makes it easy
for data analysts and
data scientists to clean
and normalise data to
prepare it for analytics
and machine learning.

Thursday

Making predictions
with data.

Generate accurate
machine learning
predictions on your
own.



Cloud 101

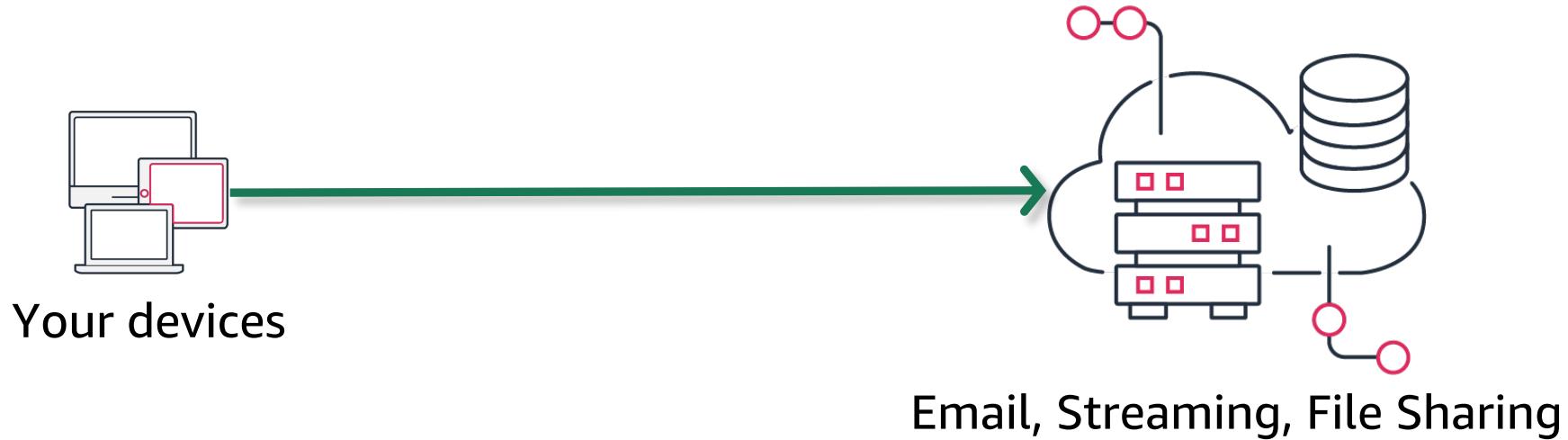




NETFLIX

What is the Cloud

The **Cloud** is a way the technical community refers to services that are accessed over the Internet.



The relationship between hardware and software

You just got a new laptop!



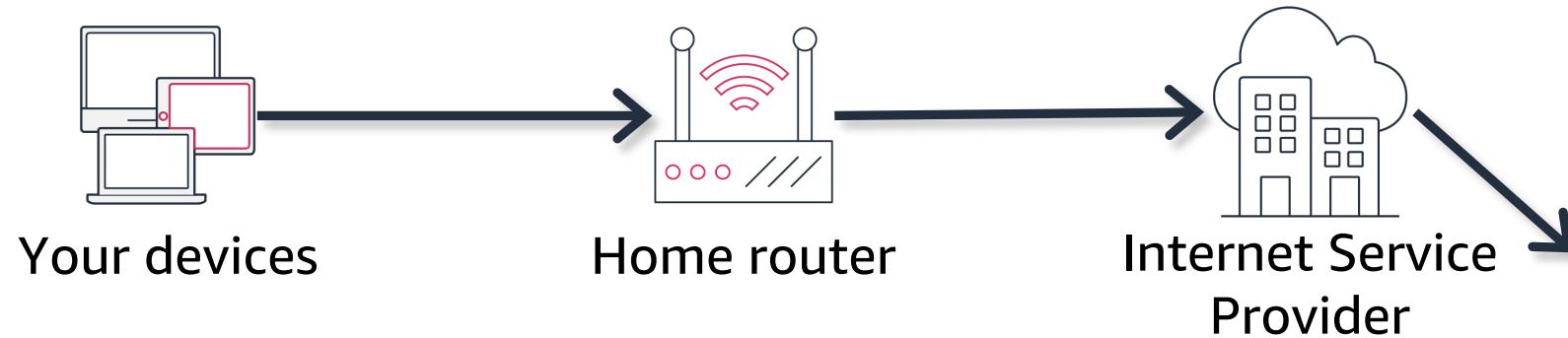
What is the first thing you do?

- Setup applications
- Transfer your files
- Connect to the internet

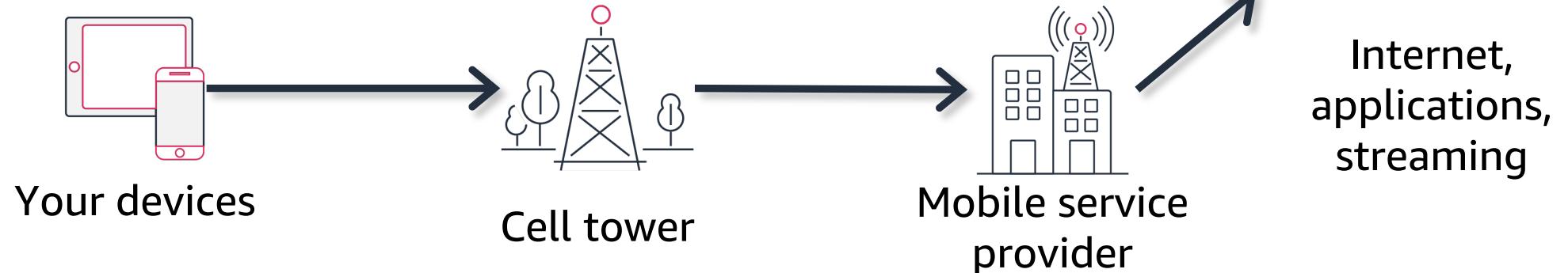


Computer networks in real life

At
Home

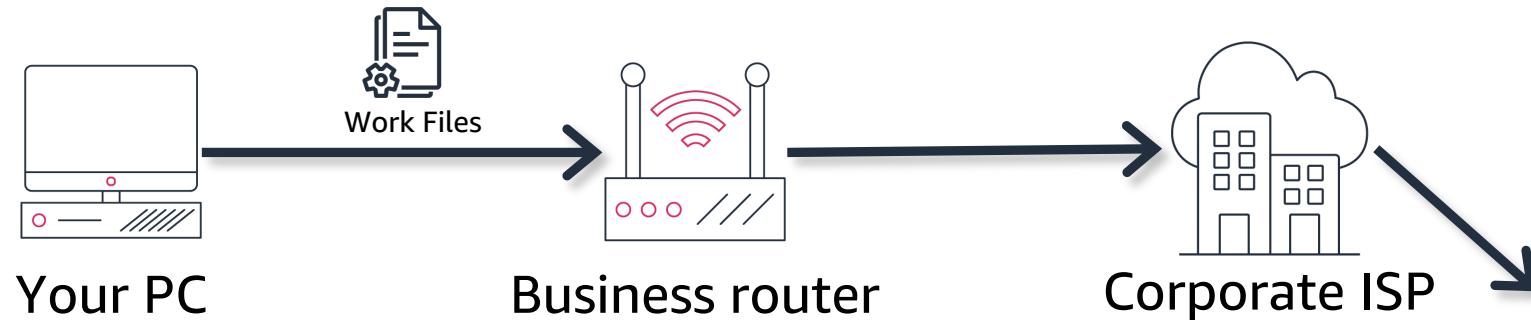


On
the road



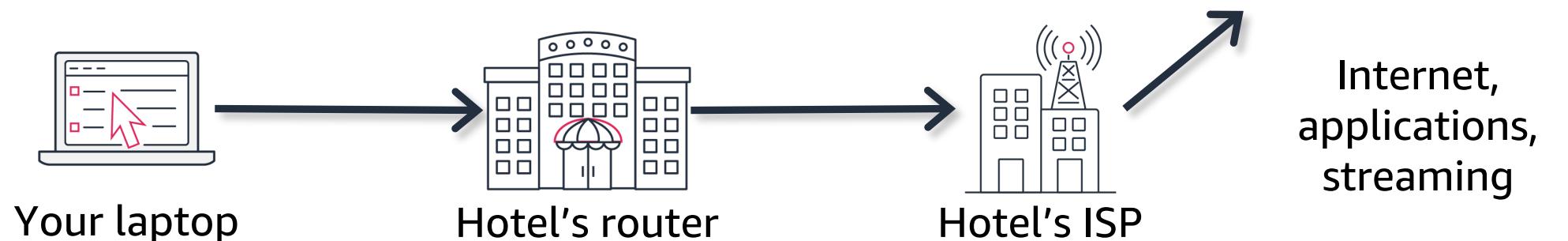
Computer networks in a business

At work
in
Adelaide



What can you do if you need a file from
your corporate network?

On the
road in
OZ



Business use cases for the Cloud



Data backup



Software development and testing



Connect global teams



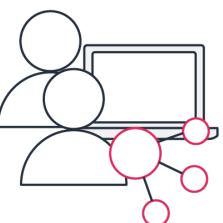
Big data analytics



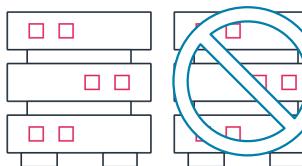
Email



Customer-facing web applications



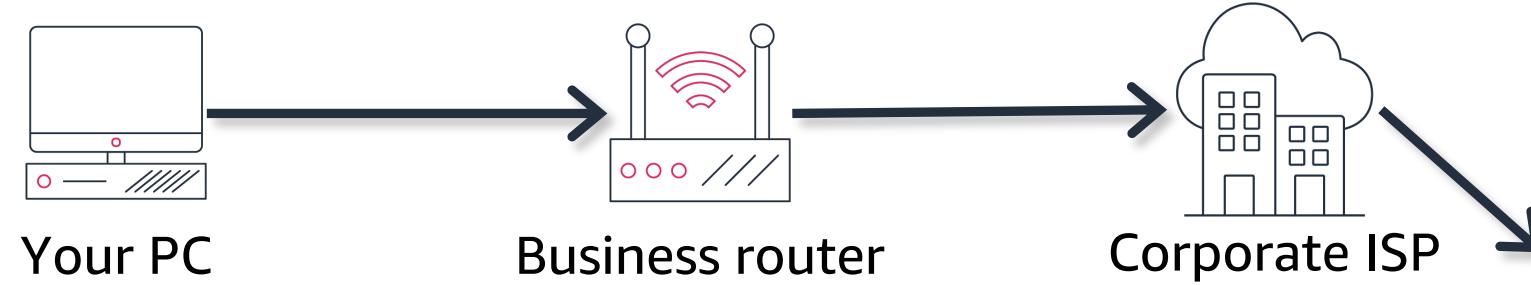
Virtual desktops



Disaster recovery

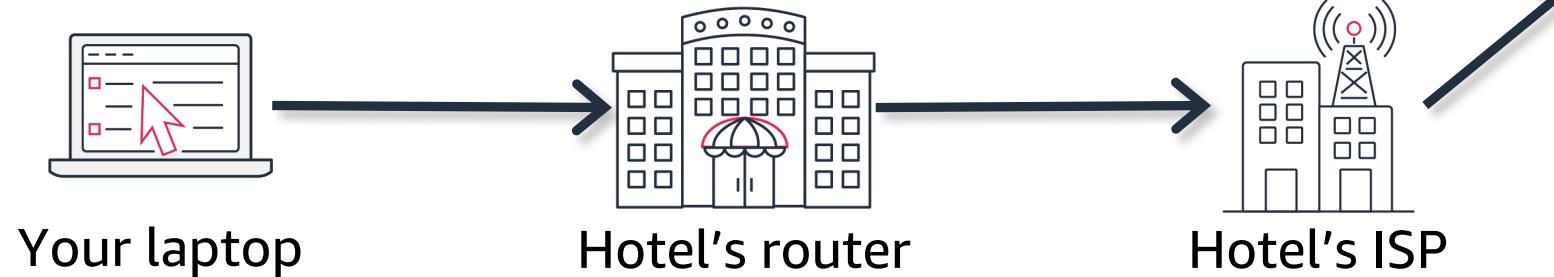
Cloud services solving our file access issue

At work
in
Adelaide



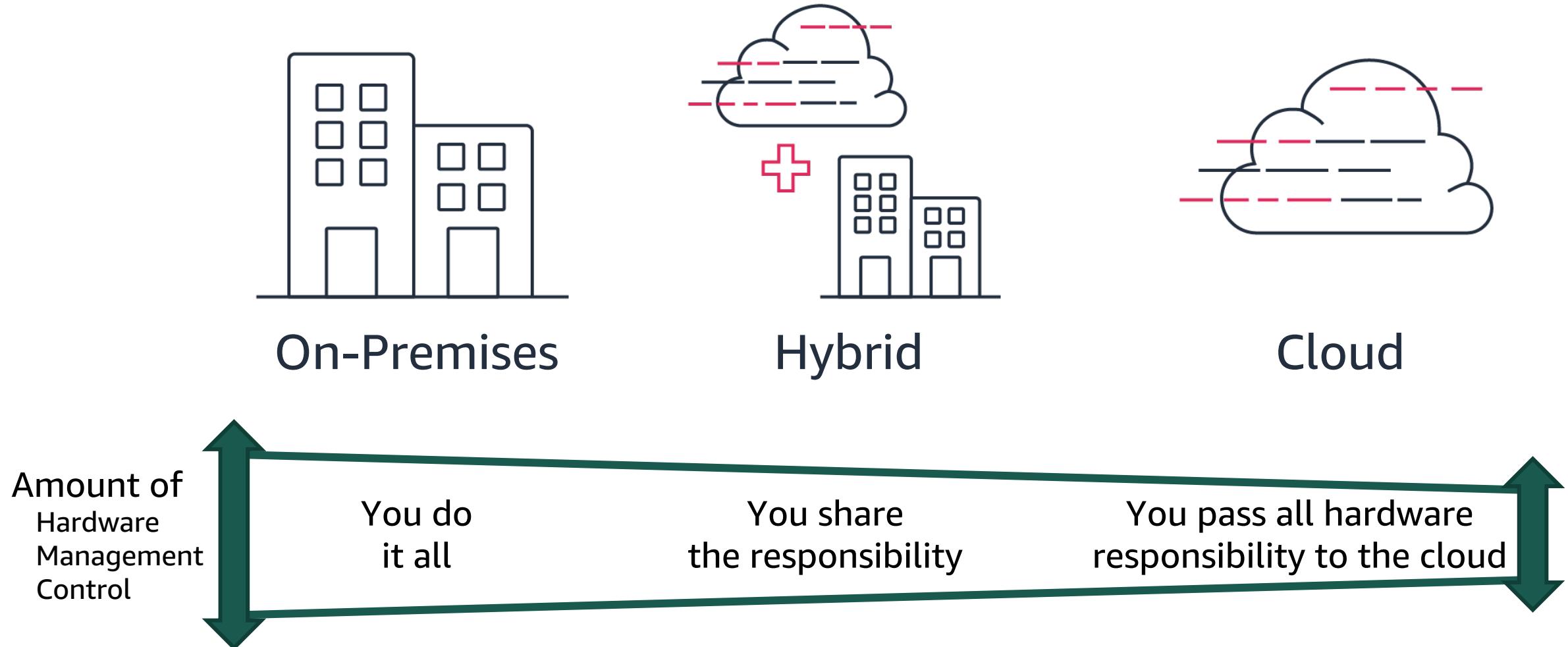
The corporate files can be safely stored
using AWS cloud services.

On the
road in
OZ



Internet,
applications,
streaming

Computing deployment models

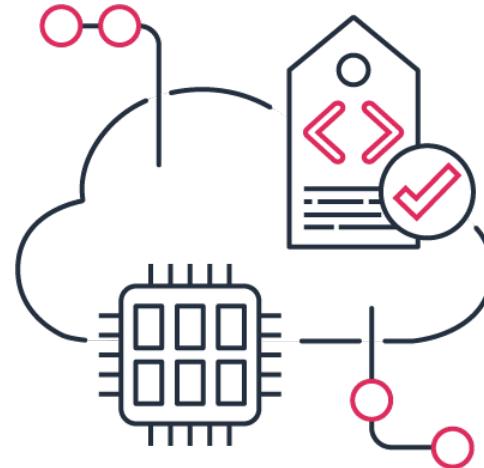


Cloud computing models

There are three main models for cloud computing. Each model represents a different part of the cloud computing stack.



Infrastructure as a
Service (IaaS)
Virtual Servers and Storage



Platform as a Service
(PaaS)
Database



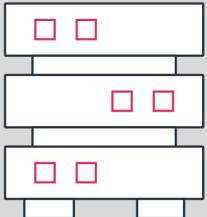
Software as a Service
(SaaS)
Dropbox, Email

Shared responsibility model

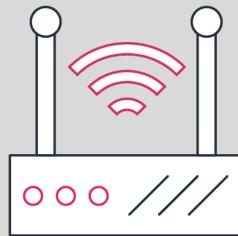
Business hosts
everything

Complete ownership of
hardware & software.

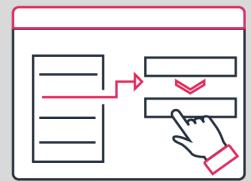
Total Control



Servers



Network



Operating System
and Security



Applications
and data



Users and
Customer Data

Your Responsibility

Shared responsibility model

Business hosts everything

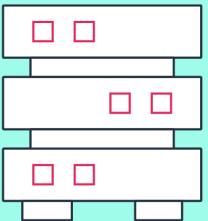
Infrastructure as a Service (IaaS)

Complete ownership of hardware & software.

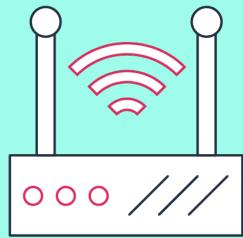
Infrastructure for you to build a business on.

— Total Control —→

Pass some responsibility to AWS

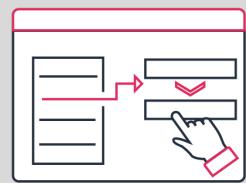


Servers



Network

AWS' Responsibility



Operating System and Security



Applications and data



Users and Customer Data

Your Responsibility

Shared responsibility model

Business hosts everything

Infrastructure as a Service (IaaS)

Platform as a Service (PaaS)

Complete ownership of hardware & software

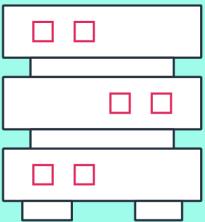
Infrastructure for you to build a business on

Platform to build your own applications

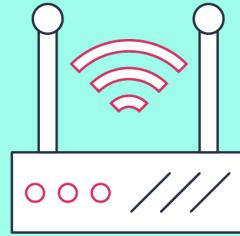
— Total Control —

Pass some responsibility to AWS →

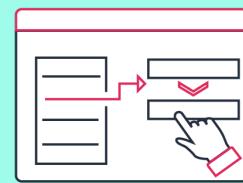
Pass more responsibility to AWS



Servers



Network



Operating System and Security



Applications and data

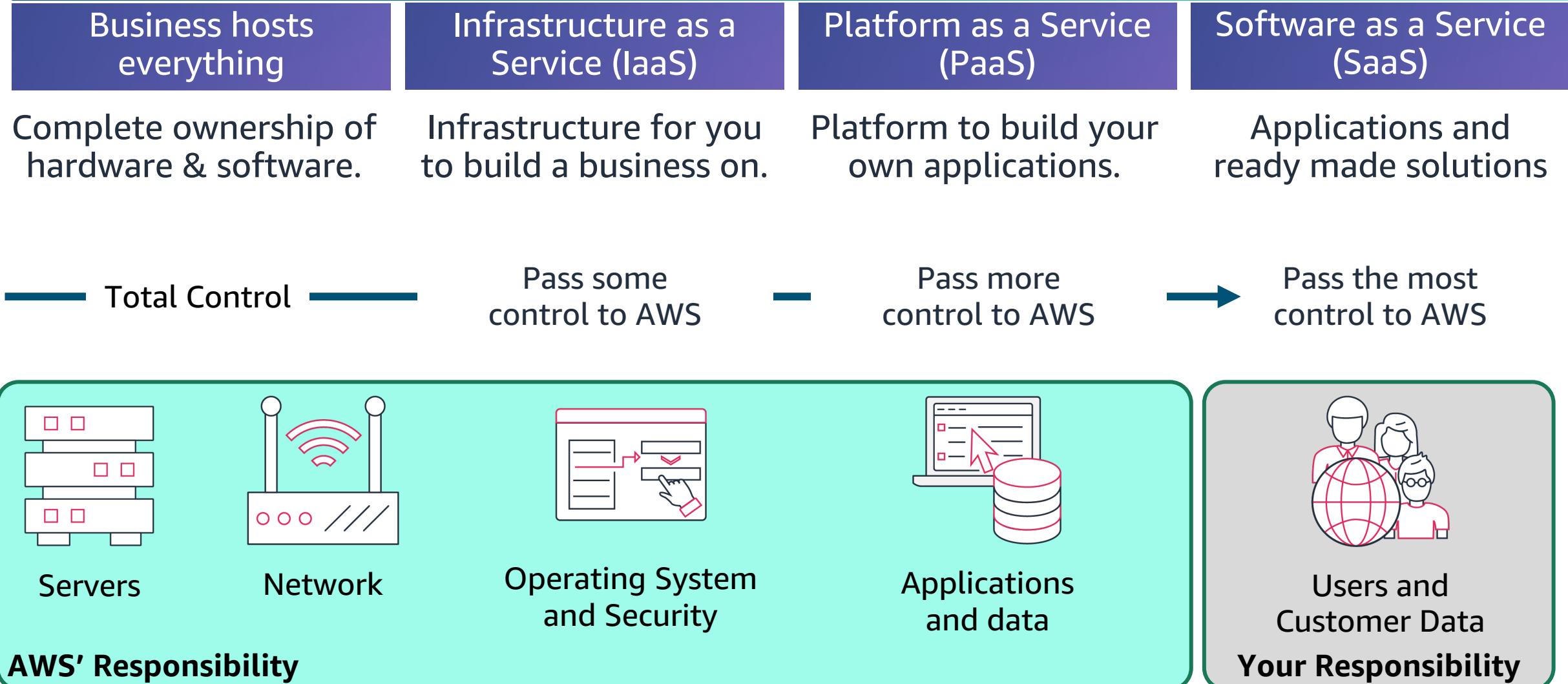


Users and Customer Data

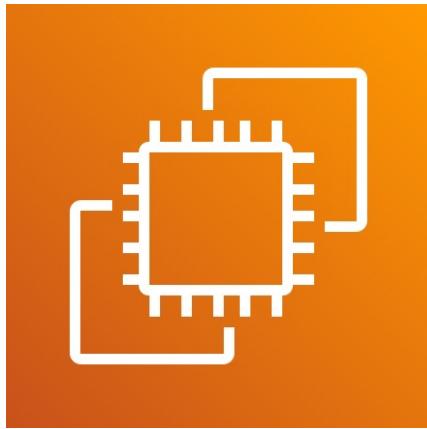
AWS' Responsibility

Your Responsibility

Shared responsibility model

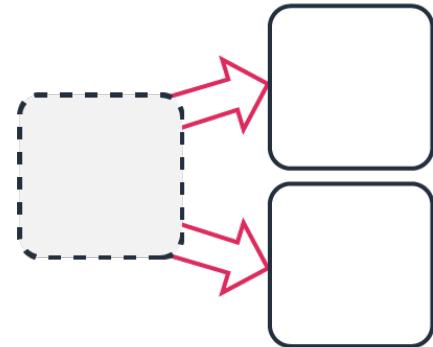


Amazon cloud computing (IaaS)



Amazon EC2

Secure and resizable compute capacity in the cloud.
Launch applications when needed without upfront commitments.



Highly scalable computing



Secure



Inexpensive

Amazon cloud object storage (IaaS)

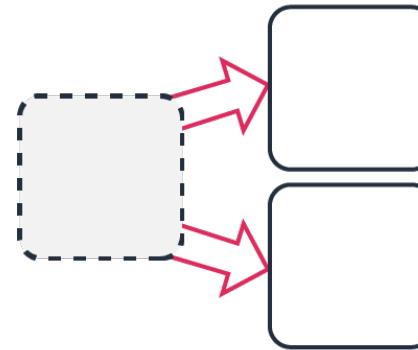


Amazon Simple
Storage Service
(Amazon S3)

Object storage built to retrieve any amount of data from anywhere.



Durable
99.99999999%



Highly scalable
storage



Flexible
Store a wide range
of data

Amazon serverless compute (PaaS)



AWS Lambda

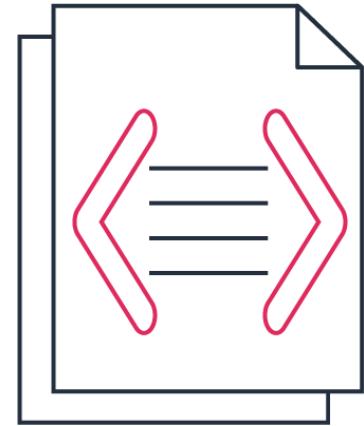
AWS Lambda is a serverless, event-driven compute service that lets you run code for virtually any type of application or backend service without provisioning or managing servers.



Run code without provisioning or managing servers



Pay only for the compute time you consume



Use other AWS services to automatically invoke functions

Amazon Cloud native databases (PaaS)



Amazon Aurora

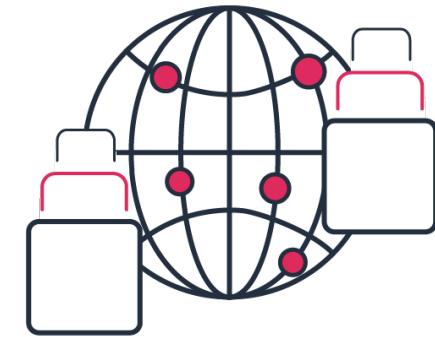
Relational database engine with built-in security, continuous backups, serverless compute, and automated multi-Region replication.



Store data in an enterprise-class relational database



Reduce costs by eliminating unnecessary input/output (I/O) operations



Replicate six copies of data across three Availability Zones

Shared Responsibility Model - Security



Customer is responsible for
security **IN** the cloud

Customer
AWS

AWS is responsible for
security **OF** the cloud

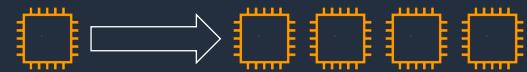
Customer responsibility is determined by the AWS Cloud services a customer selects.

AWS is responsible for protecting the infrastructure that runs all the services offered in the AWS Cloud.

Traditional Datacenter Shortcomings



Long lead times
for new equipment



Limited ability to
scale up assets
when needed



Capacity limits
within the
datacenter

How does On-Premise New Product Launch?



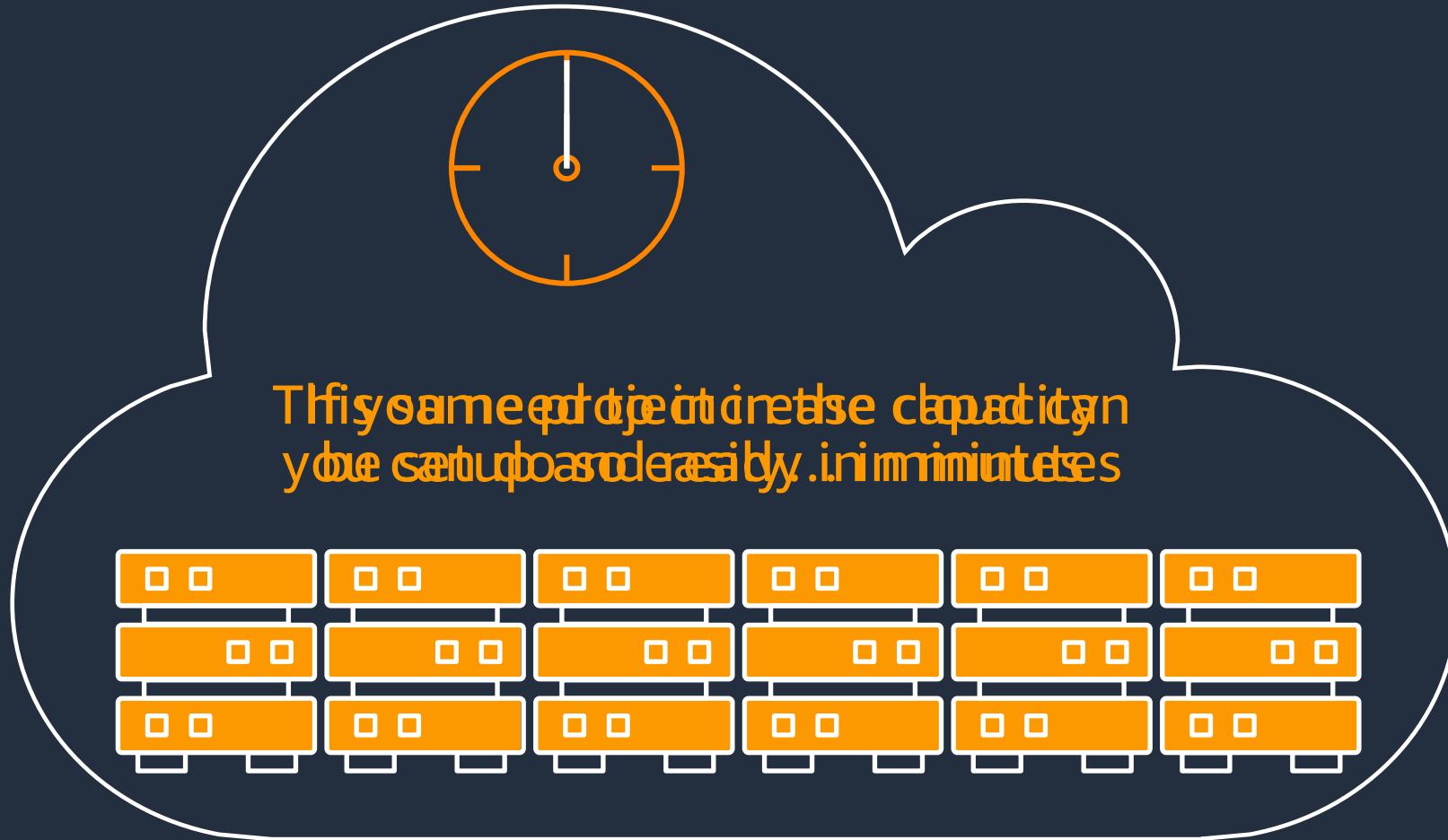
**First step is to identify what hardware is needed,
then purchase it, build it, and finally get it up and running**



To Do List:

- ✓ Order servers
- ✓ Receive servers
- ✓ Install servers
- ✓ Setup servers
- ✓ Install software on servers
- ✓ Test servers
- ✓ Servers goes live

Cloud New Product Launch



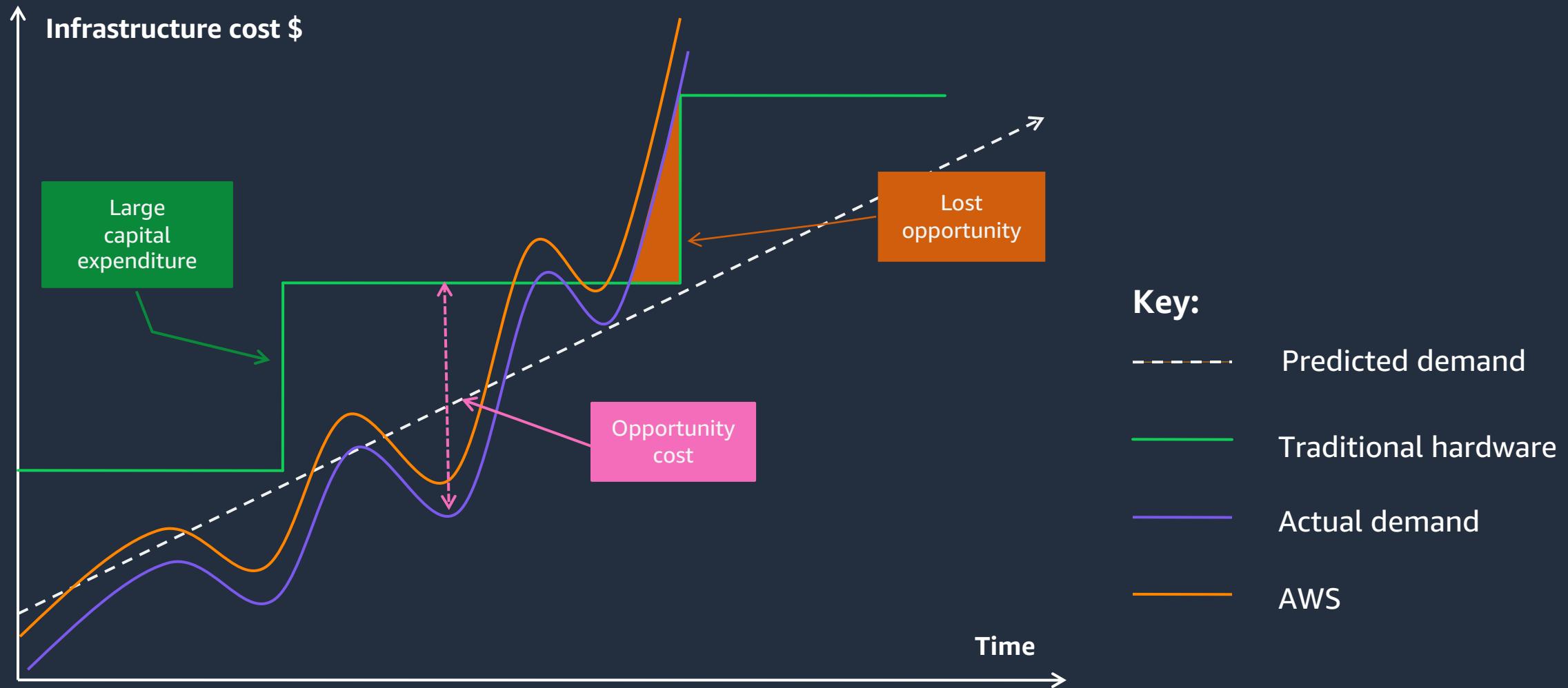
To Do List:

- ✓ Execute script to setup new servers

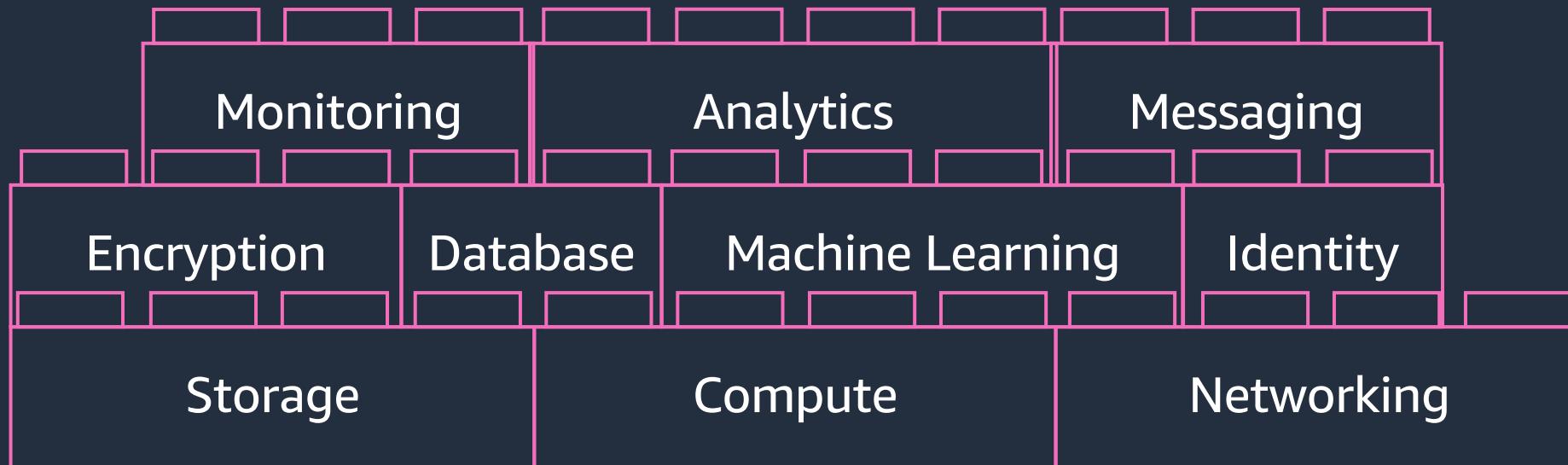


Teams can experiment and innovate more quickly and frequently

AWS matches capacity and demand...



Cloud computing is the on-demand delivery of IT resources with consumption pricing



Easy access to technology building blocks such as compute power, storage, databases, and other purpose built services on an as-needed basis



Amazon

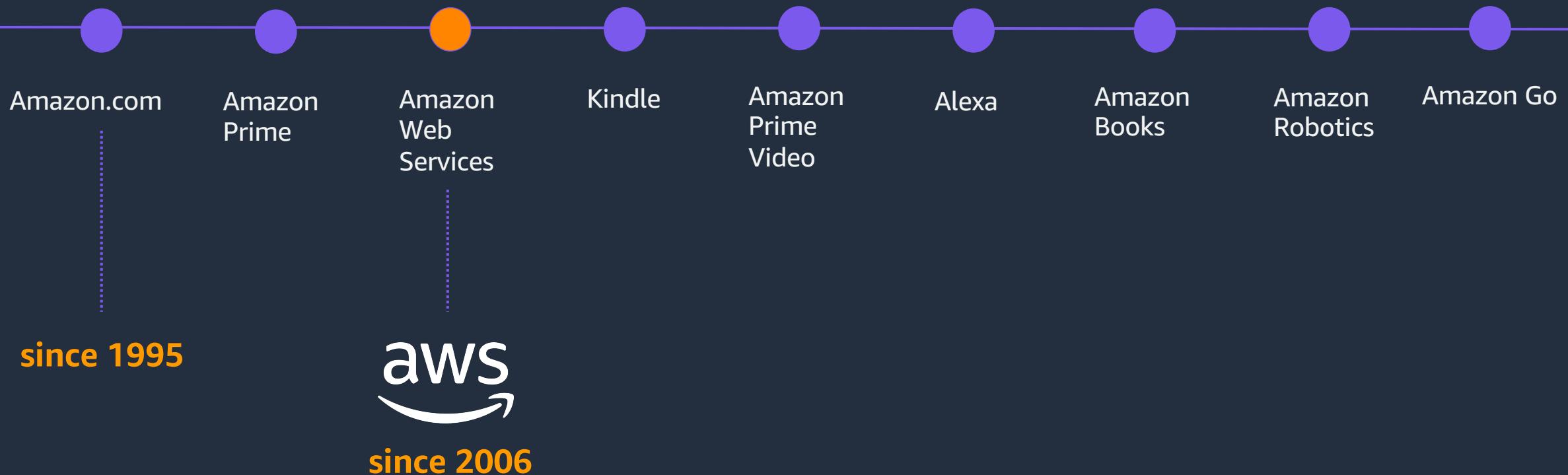


Amazon is born

Jeff Bezos and his wife MacKenzie open an online bookstore in Seattle because of the city's reputation as a tech hub and because Washington's small population meant that they wouldn't have to charge sales taxes to most of their customer base. Bezos finances the company with \$10,000 from his own pocket. He and the small staff spend their early days working in his garage on desks made out of doors purchased from Home Depot.



Our History





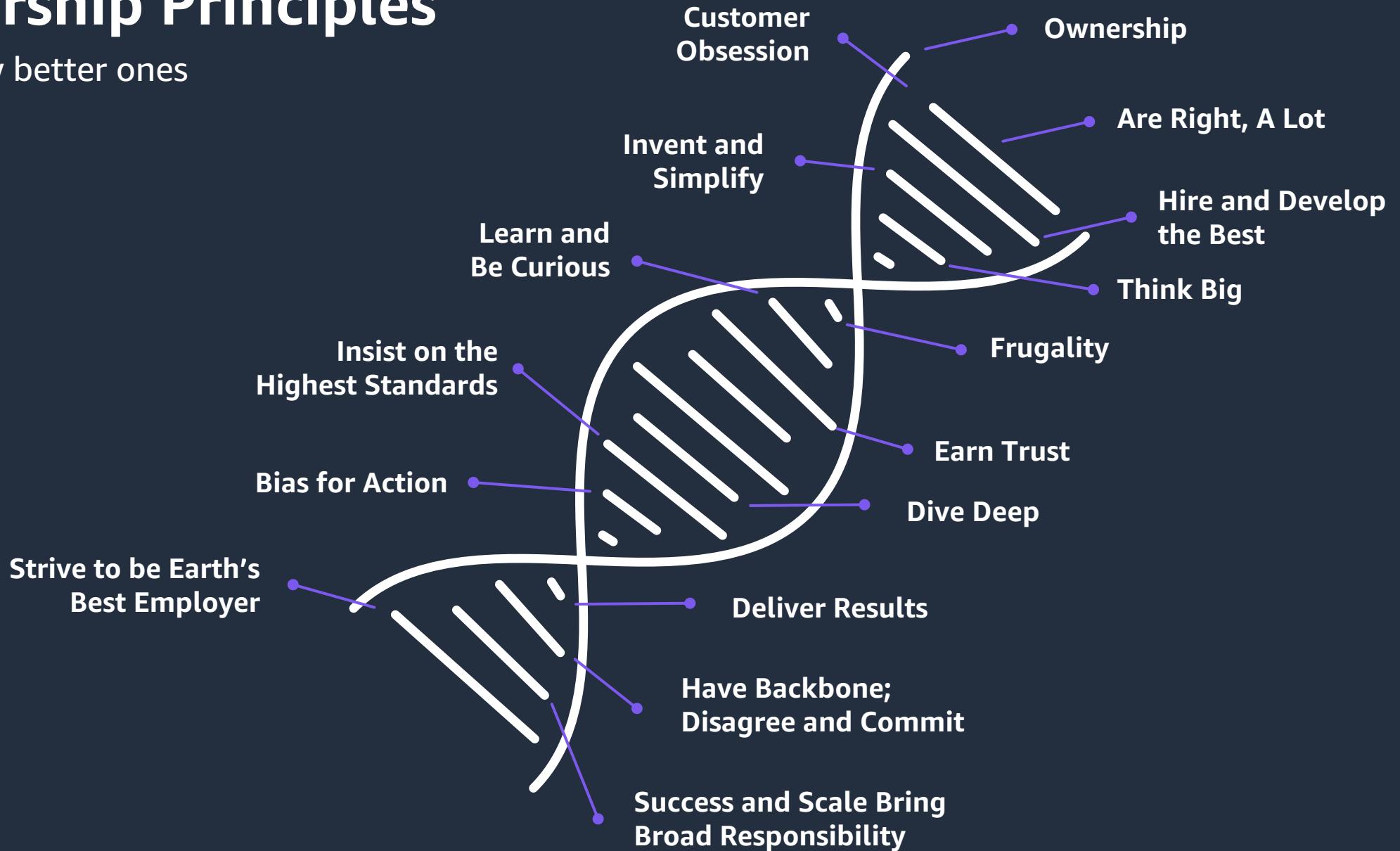


"There are many advantages to a customer-centric approach, but here's the big one: **Customers are always beautifully, wonderfully dissatisfied, even when they report being happy and business is great. Even when they don't yet know it, customers want something better, and your desire to delight customers will drive you to invent on their behalf."**

Jeff Bezos, Founder & Executive Chair
Amazon.com Inc 2016 Letter To Shareholders

Our Leadership Principles

...unless you know better ones





**Amazon hires
builders and lets
them build**

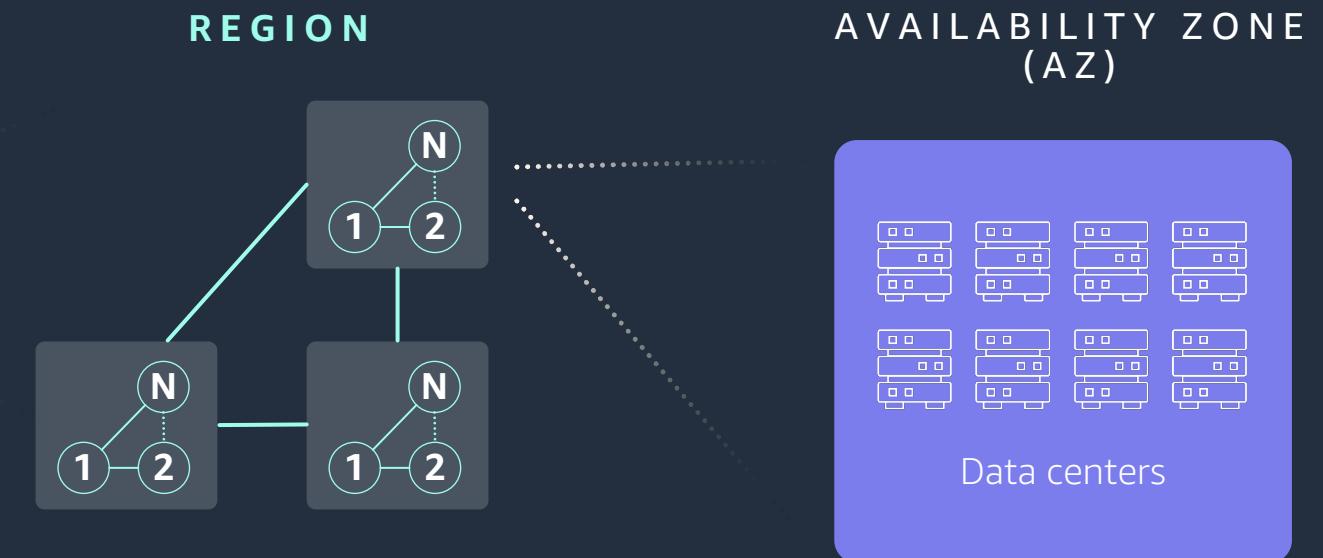


INTRODUCING
amazon go



AWS Region design

AWS Regions are comprised of multiple AZs for **high availability**, **high scalability**, and **high fault tolerance**. Applications and data are replicated in real time and consistent in the different AZs.



AWS Global Infrastructure Regions & AZs



Carbon Reduction Opportunity

AWS can lower the carbon footprint of average on-premises data center workloads by nearly 80% today and up to 96% once AWS is powered with 100% renewable energy



Carbon Reduction Opportunity

AWS can lower the carbon footprint of average on-premises data center workloads



Compared to the median of U.S. Enterprise data centers, AWS performs the same task with an **88%** lower carbon footprint.

- **61%** of carbon reduction is attributable to more efficient servers and higher server utilization
- **11%** of carbon reduction is attributable to more efficient data center facilities
- **17%** of carbon reduction is attributable to reduced electricity consumption and renewable energy usage

Carbon efficiency of AWS infrastructure compared to surveyed U.S. enterprises

Source: 451 Research, *The Carbon Reduction Opportunity of Moving to Amazon Web Services*, 2019

Customers want more value from their data



Growing exponentially



From new sources



Increasingly diverse



Used by many people



Analyzed by many applications

Data is a strategic asset for every organization

“ The world’s most valuable resource is no longer oil, but **data**. ”

David Parkins, 2017, The Economist





Cloud Careers



**As cloud migration has accelerated,
so has the demand for cloud talent**

The cloud skills gap:

85% of leaders report shortages in the workforce skills needed to capitalize on their cloud investment.

451 Research, [Voice of the Enterprise \(VoE\): Cloud, Hosting & Managed Services, Organizational Dynamics 2020](#)



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Common competencies and qualifications for all roles

- Familiar with/basic knowledge of:
 - Public Cloud providers
 - Cloud computing technologies
 - Network and operating system platforms
- Strong verbal and written communication skills
- Technical writing skills

Entry-level Cloud Support Engineer

What does a Cloud Support Engineer do?

- Provide **technical assistance** to cloud computing users across all channels, including chat, email, phone, video, in-person, etc.
- **Troubleshoot** across corporate **IT resources, applications**, and various **operating systems**.

A day in the life of a Cloud Support Engineer



**Quote
from a
Pro**

"I get to help people solve problems and help them to be more productive."

"Most of my day is communication and problem solving."

**Quote
from a
Pro**

Entry-level Cloud Support Engineer

Job Roles in the Cloud

Competencies

- Work on critical, highly complex customer problems that will span multiple cloud services.
- Troubleshoot application deployments, recreate customer issues, and build POC applications.
- Dive deep to resolve problems at their root, looking for failure patterns and suggest fixes.

Job Roles in the Cloud

Qualifications

- Understanding of Cloud-based storage solutions
- Understanding of Cloud Delivery Networks
- Knowledge of client / server and distributed systems / AWS Cloud architecture patterns

Job Roles in the Cloud

Certifications

- AWS Certified Cloud Practitioner
- AWS Solutions Architect – Associate



Break

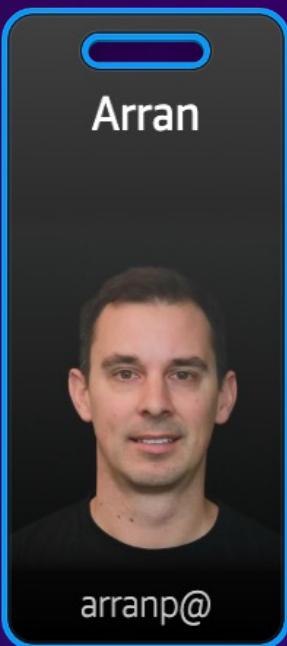


Cloud Roles Quiz



<https://tinyurl.com/bdesvm62>

Panel



Program
Manager

Solutions
Architect

Account
Manager

Cloud Support
Engineer

slido.com
2866935



The Plan



<https://tinyurl.com/bdejvep5>





Thank you!

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