



AWSOME DAY

ONLINE CONFERENCE

16 NOVEMBER 2023 | APJ

Introduction to AWS services

Networking & security

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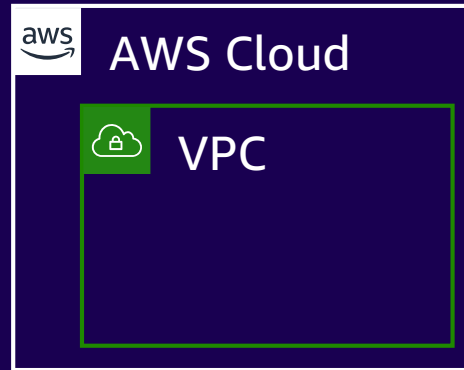
Networking



Amazon Virtual Private Cloud (Amazon VPC)



Amazon
VPC



Your private
network space in
the AWS Cloud



Provides logical
isolation for
your workloads



Allows custom access
controls and security
settings for your resources

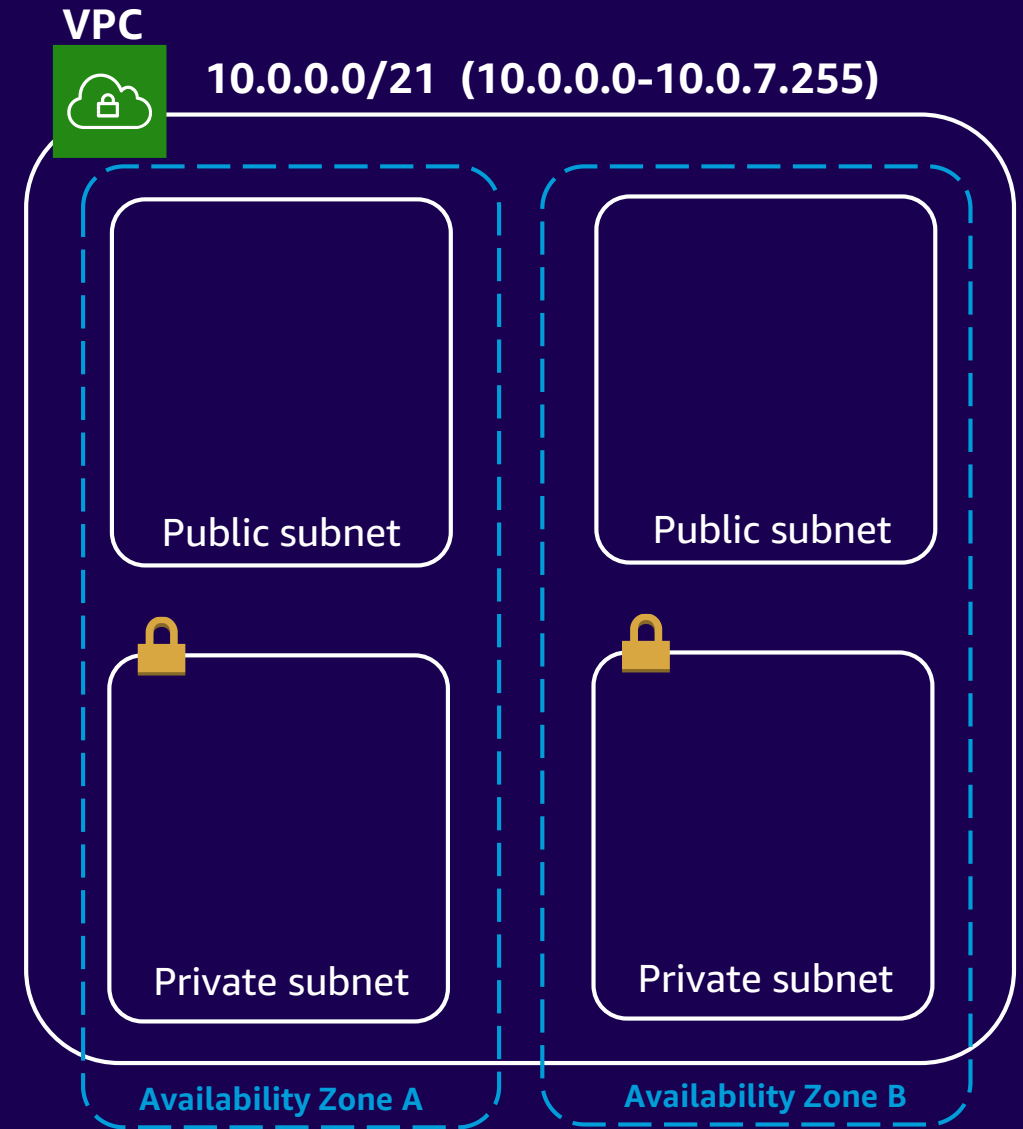
Using subnets to divide your VPC

A subnet is a segment or partition of a VPC's IP address range where you can isolate a group of resources

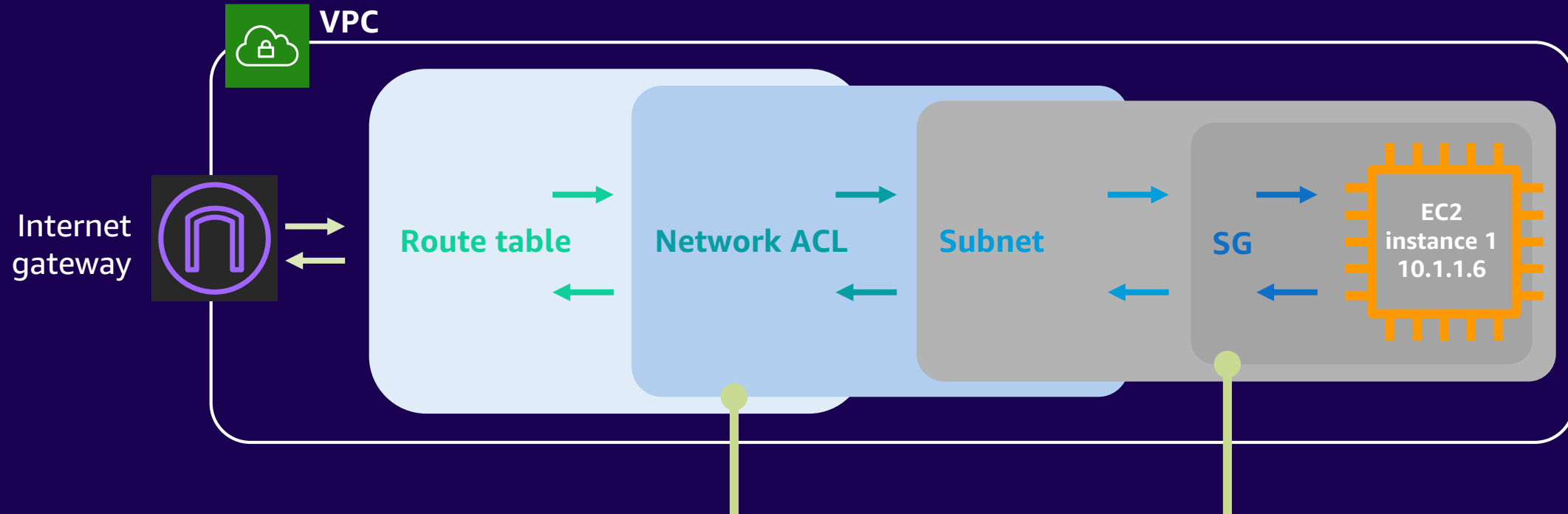
Subnets define internet accessibility

Private subnets

- No routing table entry to an internet gateway
- Not directly accessible from the public internet



Structure your infrastructure



- **Network access control lists (ACLs)**
- Allow/deny traffic in and out of subnets
- Hardens security as a secondary level of defense at the subnet level

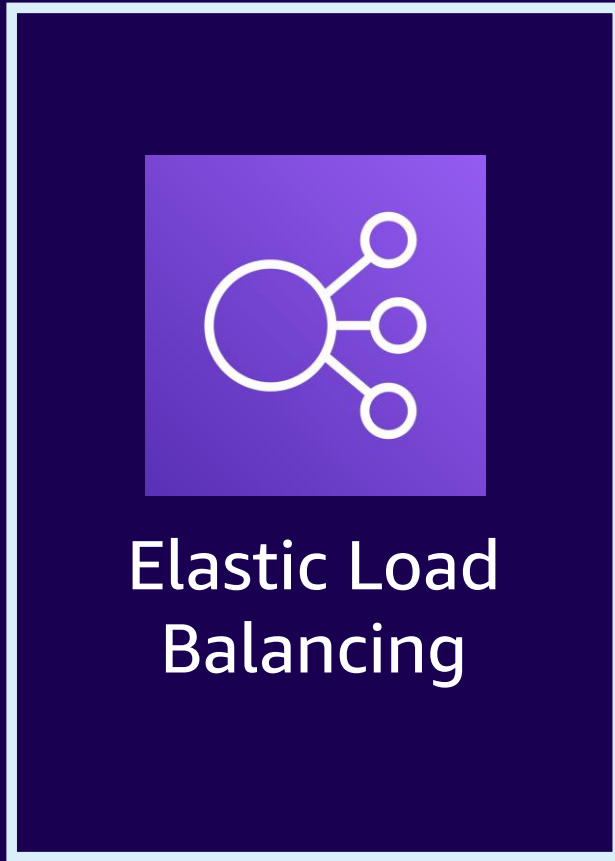
Security groups

- Used to allow traffic to/from at the network interface (instance) level
- Usually administered by application developers

Demo: Deploying a photo-sharing website



Elastic Load Balancing (ELB)



A managed load balancing service that distributes incoming application traffic across multiple Amazon EC2 instances, containers, and IP addresses



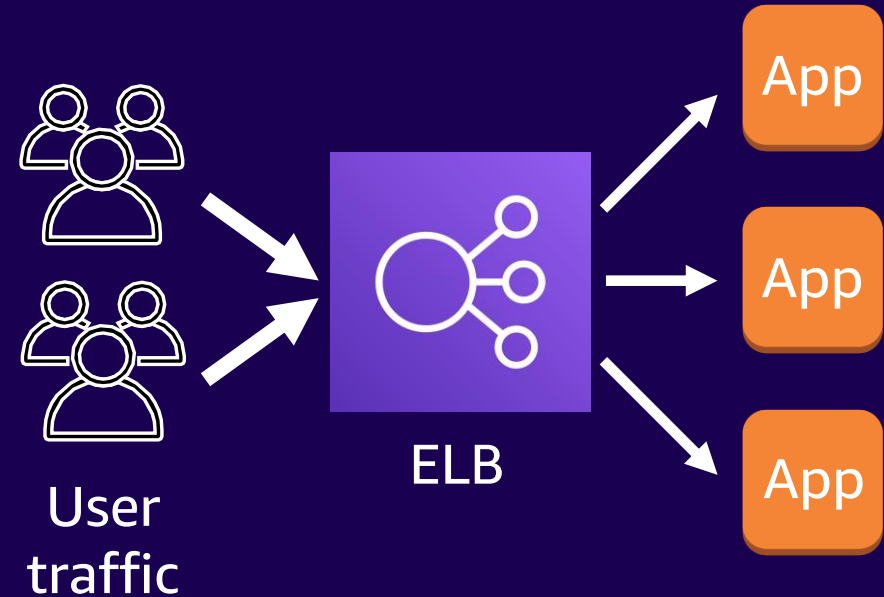
High
availability



Health
checks



Security
features



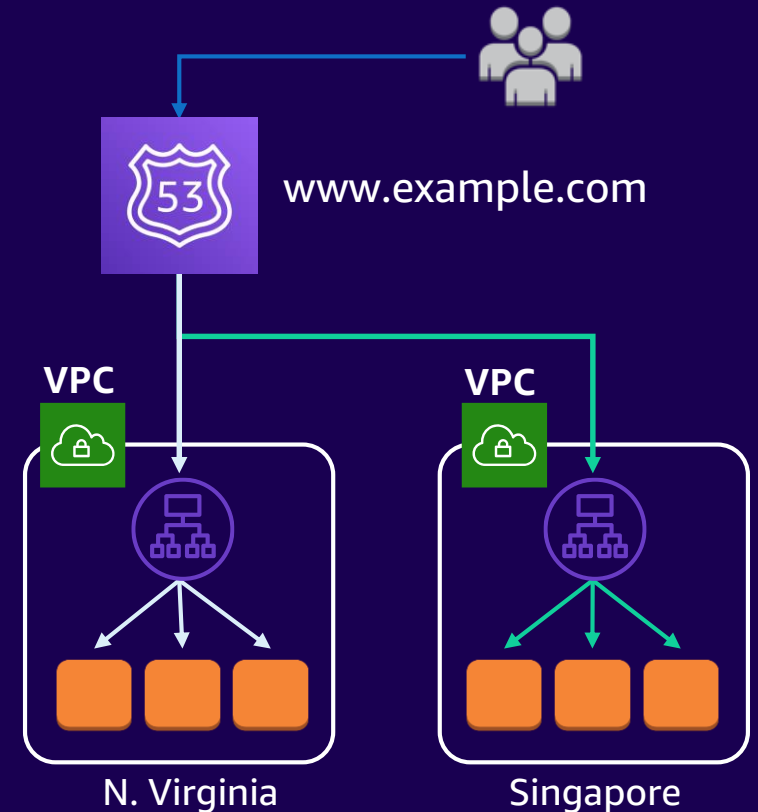
Amazon Route 53



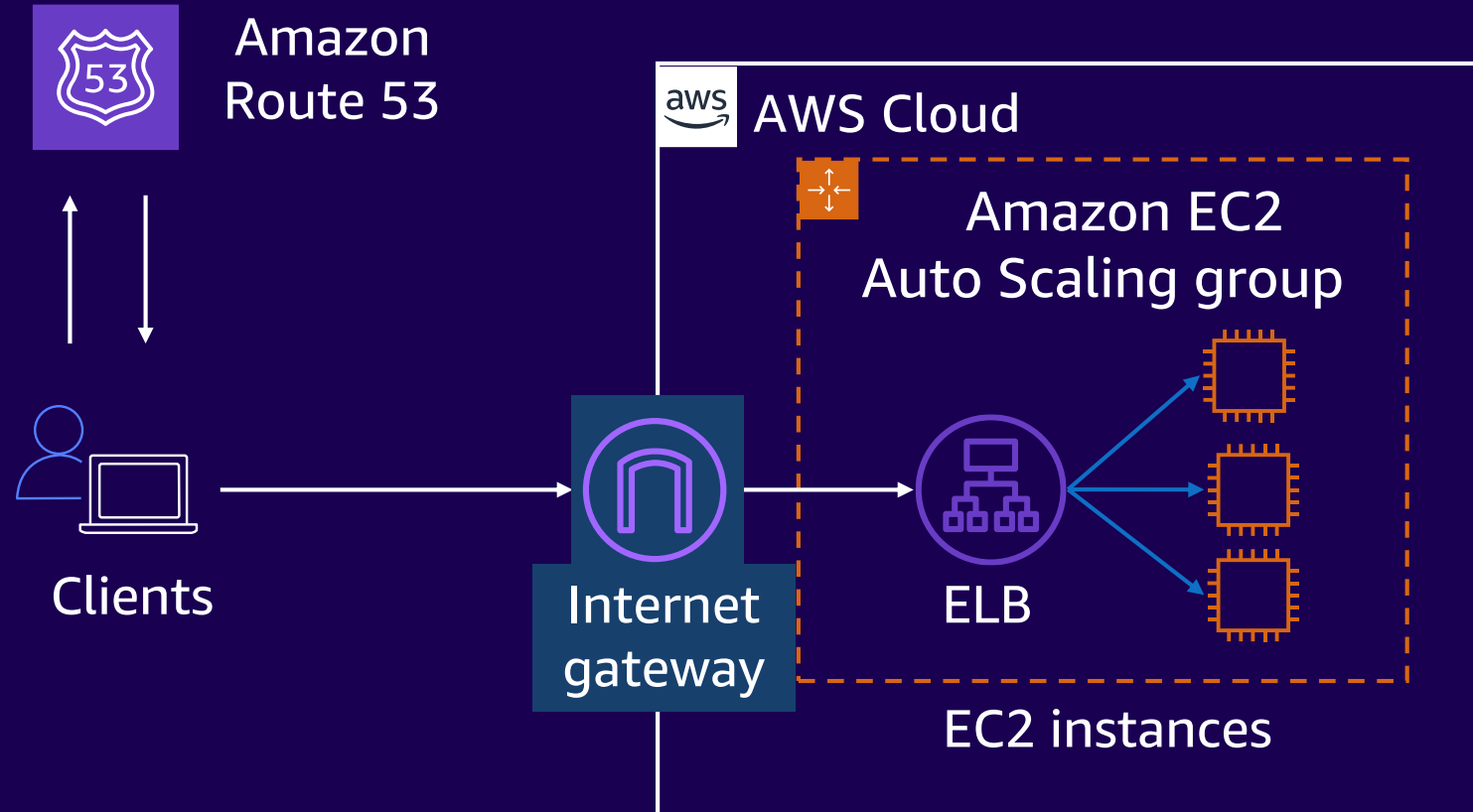
Amazon
Route 53

Route 53 is a highly available and scalable cloud Domain Name System (DNS) service

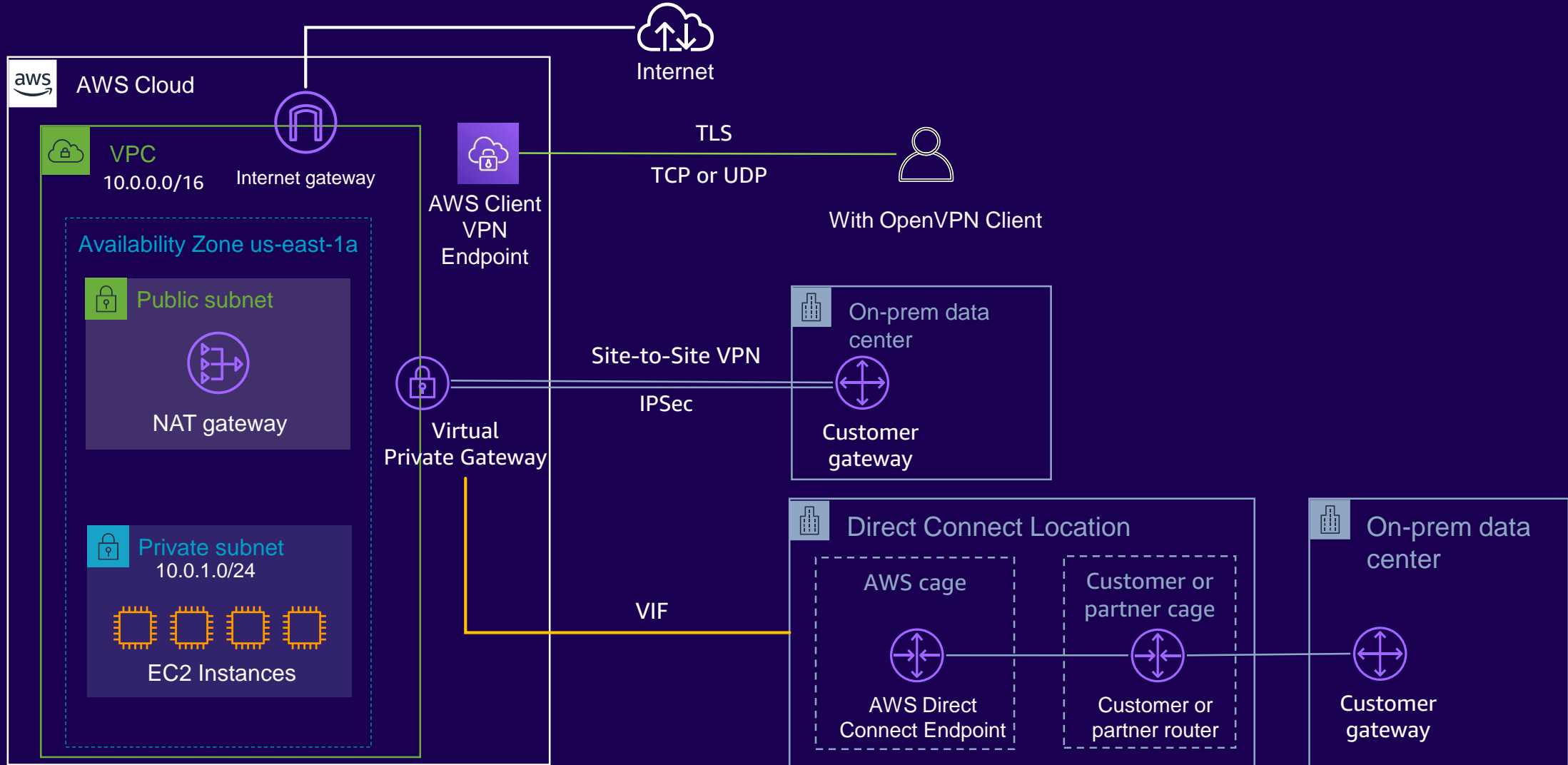
- DNS translates domain names into IP addresses
- Able to purchase and manage domain names and automatically configure DNS settings
- Provides tools for flexible, high-performance, highly available architectures on AWS
- Multiple routing options



Putting it all together



Connecting with your infrastructure



Key Takeaways

Amazon VPC provides:

- Logically isolated network to launch applications
- Security Groups, Network ACLs and Route tables to secure your deployments

There are three main ways customers connect to AWS:

- Client VPN
- Site-to-site VPN
- Direct Connect

Security



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Security is our top priority



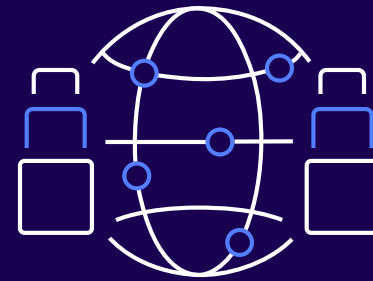
**Designed for
security**



**Constantly
monitored**



**Highly
automated**

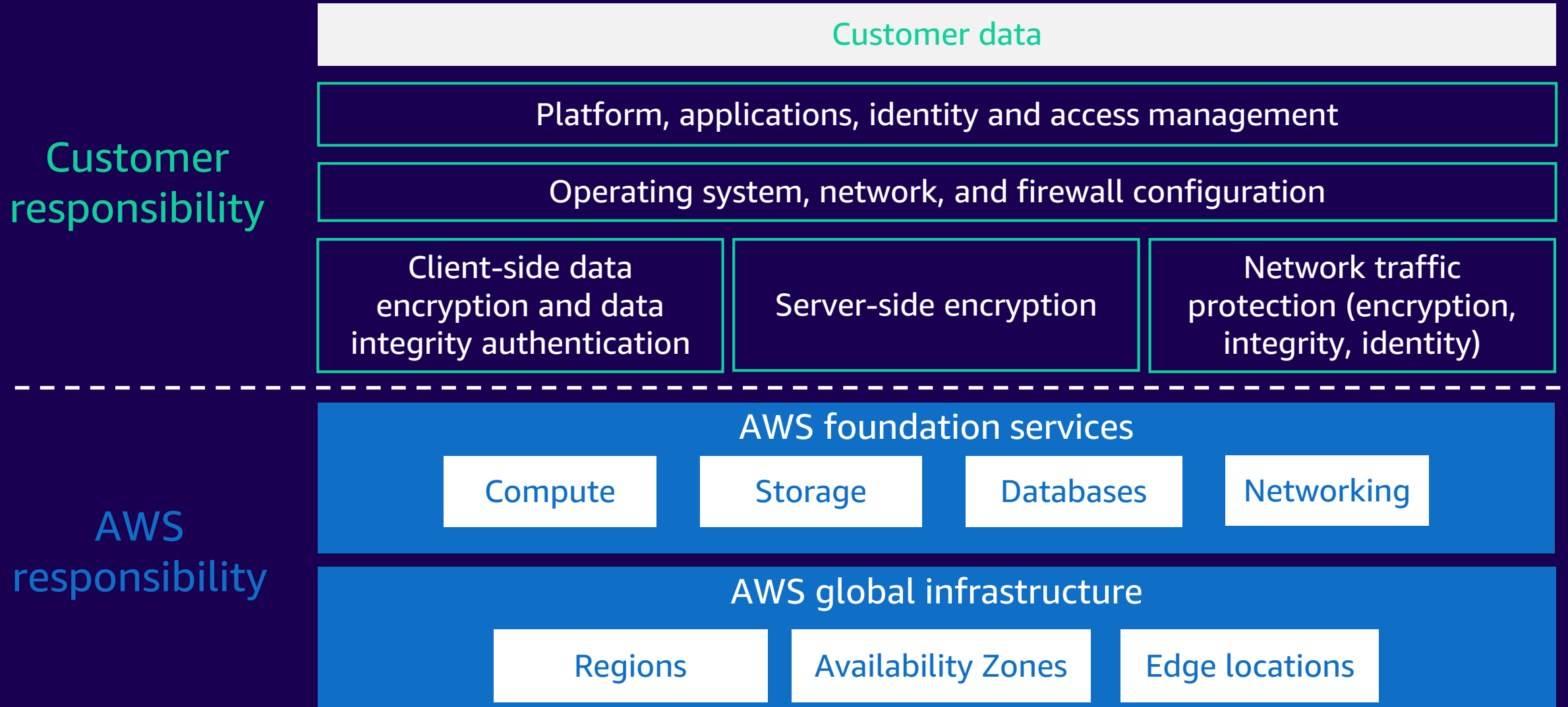


**Highly
available**

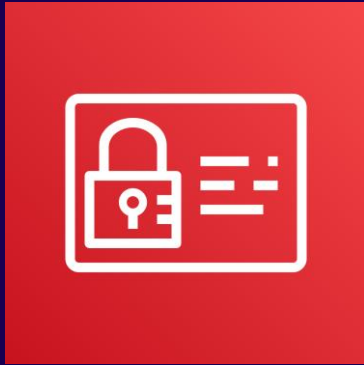


**Highly
accredited**

Shared responsibility model



AWS Identity and Access Management (IAM)

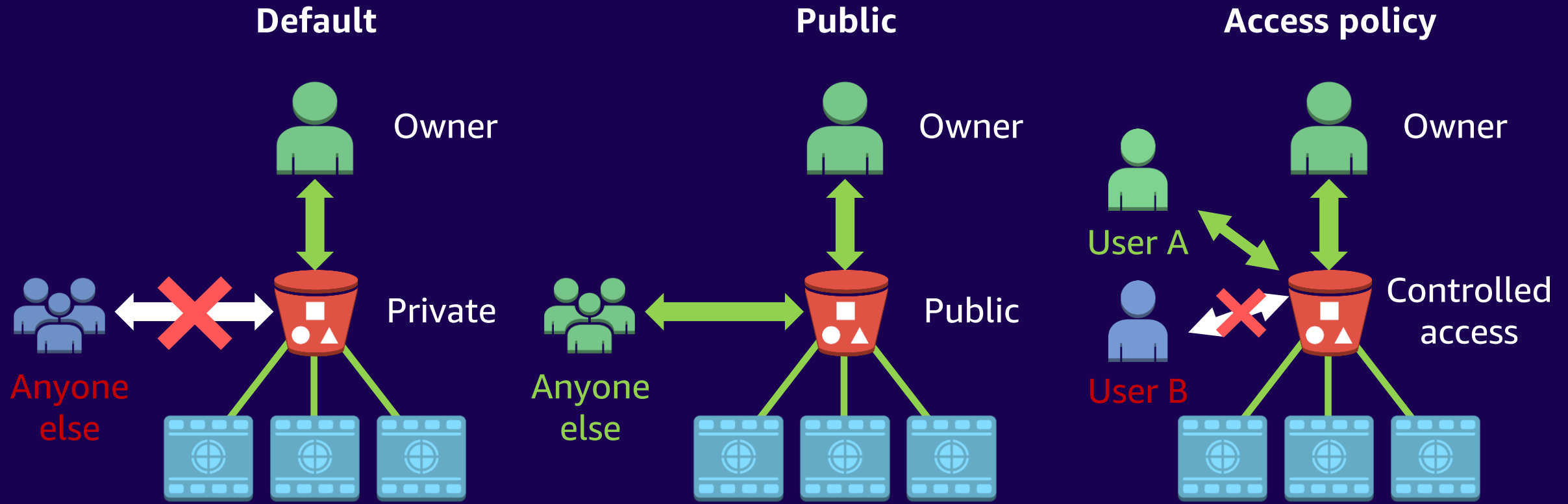


IAM

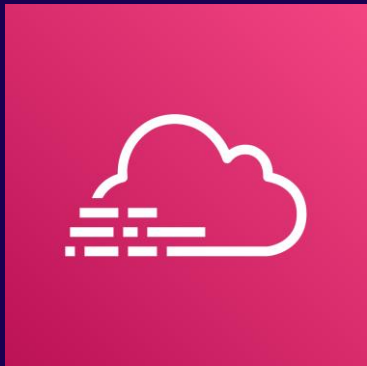
- Securely control access to your AWS resources
- Assign granular permissions to users, groups, or roles
 - Share temporary access to your AWS account
 - Federate users in your corporate network or with an internet identity provider

Amazon S3 access control: General

Some services support resource-based policies, such as S3 bucket policies



AWS CloudTrail



AWS
CloudTrail

Track user activity and API usage in your AWS account

- Continuously monitor user activities and record API calls
- Useful for compliance auditing, security analysis, and troubleshooting
- Log files are delivered to Amazon S3 buckets

Who?

What?

When?

Where?

API security-relevant information

What is AWS Trusted Advisor?

A service providing guidance to help you reduce cost, increase performance, and improve security

**Cost
optimization**



0 ✓ 9 ⚠ 0 !

\$7,516.87

Potential monthly savings

Performance



3 ✓ 7 ⚠ 0 !

Security



2 ✓ 4 ⚠ 11 !

**Fault
tolerance**



0 ✓ 15 ⚠ 5 !

**Service
limits**



37 ✓ 0 ⚠ 1 !

Key Takeaways

- Security is EVERYONE'S responsibility
 - Security IN the Cloud / Security OF the Cloud
- IAM allows users to control access to AWS resources
 - Apply policies to Users, Groups & Roles
- When a S3 bucket is created, by default it is set to PRIVATE
- CloudTrail records API calls in AWS
 - Who, What, When, Where
- AWS Trusted Advisor provides recommendations
 - help you reduce cost, increase performance and improve security

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Test your knowledge

Thank you!

