

# **Security & Compliance**

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### Security, Risk & Compliance and how things relate to each Other



## What is Amazon Web Services (AWS)?



AWS – Layers





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## Amazon Web Services (AWS) Infrastructure







### Amazon Web Services (AWS) Infrastructure, Services & Ressources





# Amazon Web Services (AWS) Infrastructure, Services & Ressources



### Security, Risk & Compliance & how things relate to each Other



aws

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### Implement Technical & Organisational Measures at AWS



### Nitro System



### "The classical host architecture"



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### "The NITRO architecture"



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### AWS Global Infrastructure



### **AWS Global Infrastructure**

### **26** geographical regions, **84** availability zones, **410+** POPs

#### Region & Number of Availability Zones (AZs)

GovCloud (US) US-East (3), US-West (3)

US West Oregon (4) Northern California (3)

**US East** N. Virginia (6), Ohio (3)

Canada Central (3)

South America São Paulo (3)

Africa Cape Town (3) **Europe** Frankfurt (3), Paris (3), Ireland (3), Stockholm (3), London (3), Milan (3)

**Middle East** Bahrain (3)

Asia Pacific Singapore (3), Sydney (3), Tokyo (4), Osaka (3) Seoul (4), Mumbai (3), Hong Kong (3), Jakarta (3)

**China** Beijing (2), Ningxia (3)

#### **Announced Regions**

8 Regions and 23 AZs in Australia, India, New Zealand, Israel, Australia, Switzerland, Spain, and United Arab Emirates (UAE)



https://aws.amazon.com/about-aws/global-infrastructure/

aws

### **Global network infrastructure**

#### **Global network:**

Redundant 100GbE network and private capacity between all regions except China

#### **Direct Connect:**

You can connect to every AWS Region from over 110 AWS Direct Connect PoPs worldwide (excluding China)

### **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 Availability Zone (AZ)

### AWS Availability Zone (AZ) design

- Fully isolated infrastructure with one or more datacenters
- Meaningful distance of separation
- Unique power infrastructure
- Many 100Ks of servers at scale
- Datacenters connected via fully redundant and isolated metro fiber





### Each AWS Availability Zone has 1 to as many as 8 Data Centers





- Single data center (DC) typically over 50,000 up to 80,000 servers (25–32 MW)
- Larger DCs undesirable (risk reduction)
- Up to 102Tbps provisioned to a single DC (inter DC not intra)

### **Benefits of the AWS Global Infrastructure**



### AWS custom hardware





#### **Commitment to a sustained future**

On September 19, 2019, Amazon and Global Optimism announced **The Climate Pledge**, a commitment to meet the Paris Agreement 10 years early. Amazon is the first signatory of this pledge. The Climate Pledge calls on signatories to be net zero carbon across their businesses by 2040—a decade ahead of the Paris Agreement's goal of 2050.

#### 100% Net zero carbon by 2040

Deploying our technology and people to reach net zero carbon across Amazon by 2040, one decade ahead of the Paris Agreement.

#### 80% Renewable energy by 2024

Investing in wind and solar to reach 80% renewable energy across all business operations by 2024. We expect to reach ~40% renewable energy by the end of 2019.

#### 100% Renewable energy by 2025

Investing in wind and solar to reach 100% renewable energy across all business operations by 2030.

#### 50% Shipments and net zero carbon by 2030

Our vision to make all Amazon shipments net zero carbon, with 50% of all shipments net zero carbon by 2030.

#### www.theclimatepledge.com







# Thank you!

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