An overview of providers

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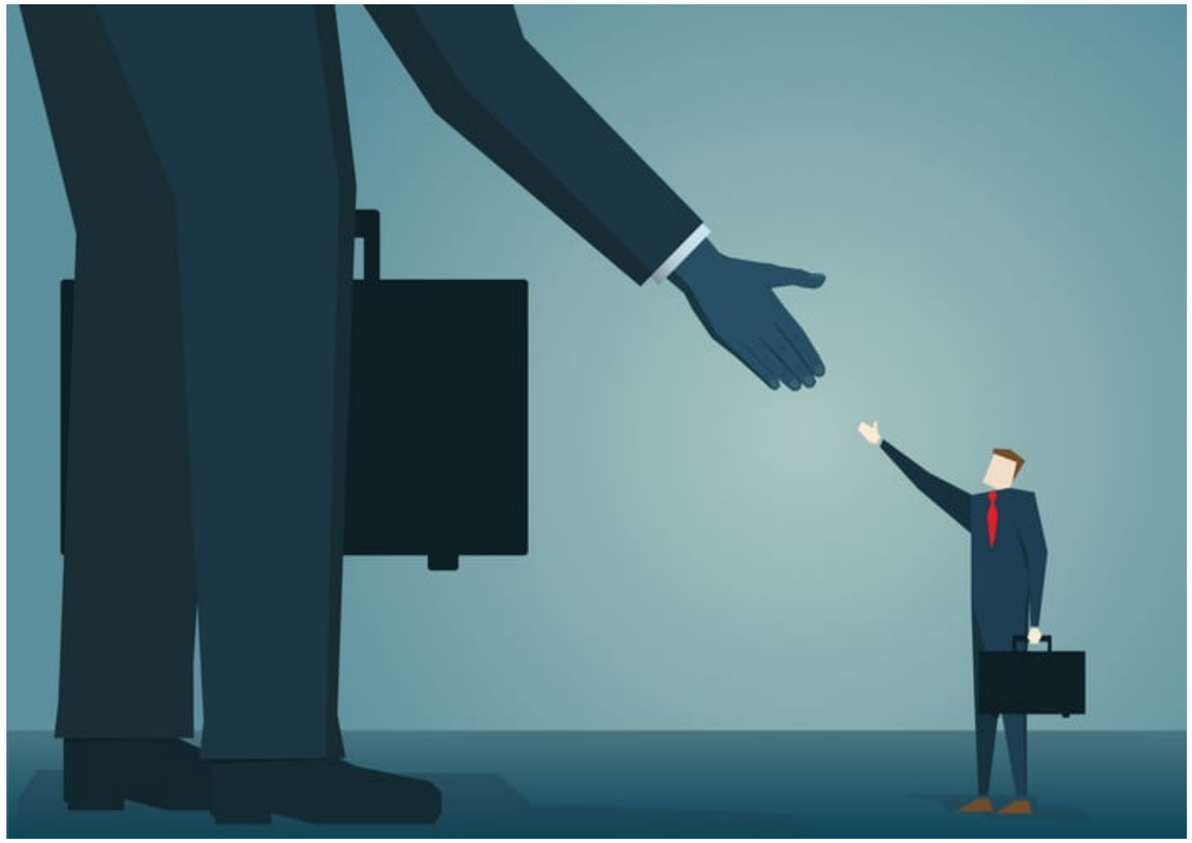
Overview

How this chapter should be understood:

- overview of **main cloud providers**
- overview of their **market position**
- overview of their respective **key services**
- overview of their **strengths**
- examples of **customers**
- **case study**



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The players


Microsoft Azure


ORACLE
CLOUD


salesforce


Google Cloud

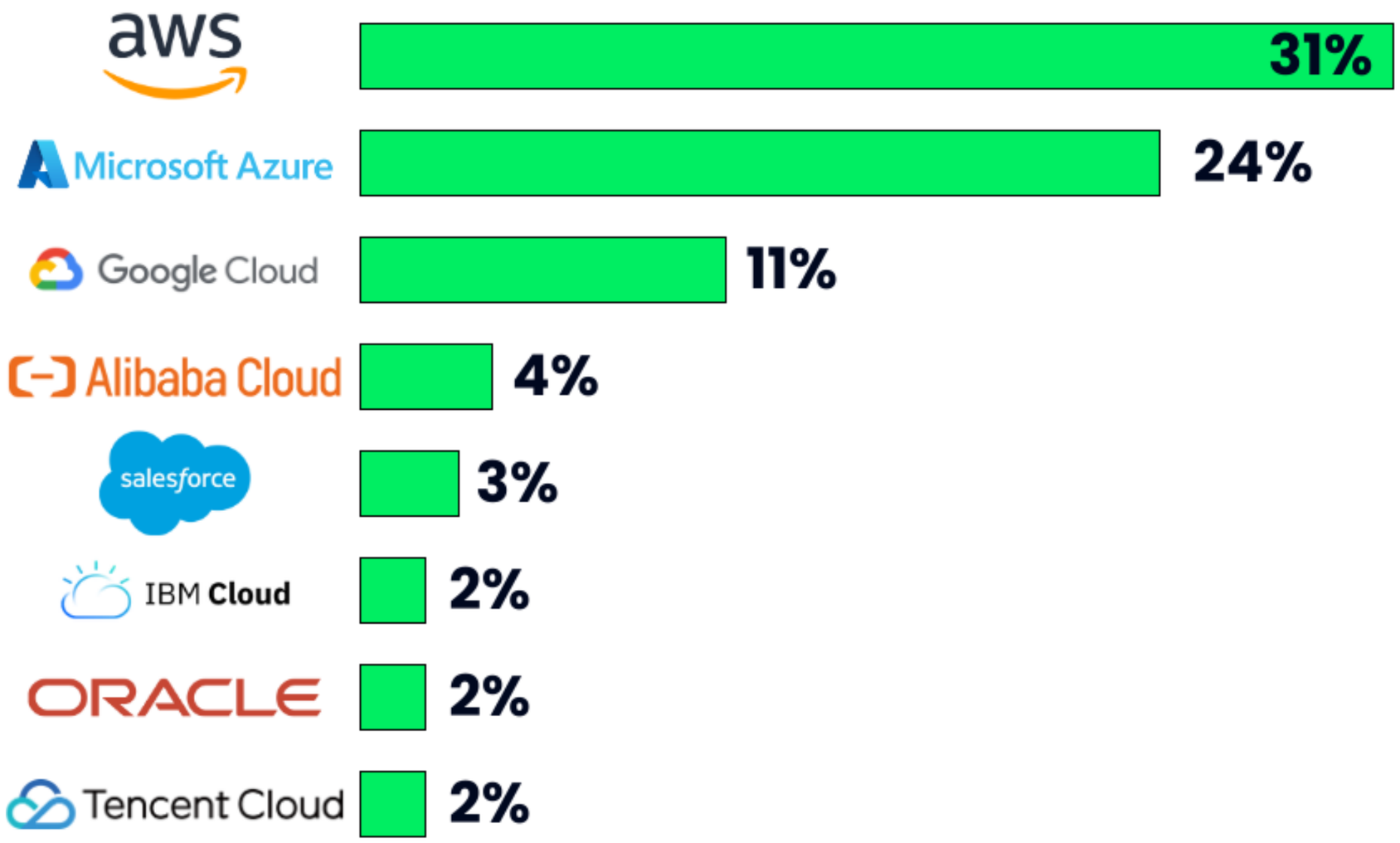

aws


Alibaba Cloud

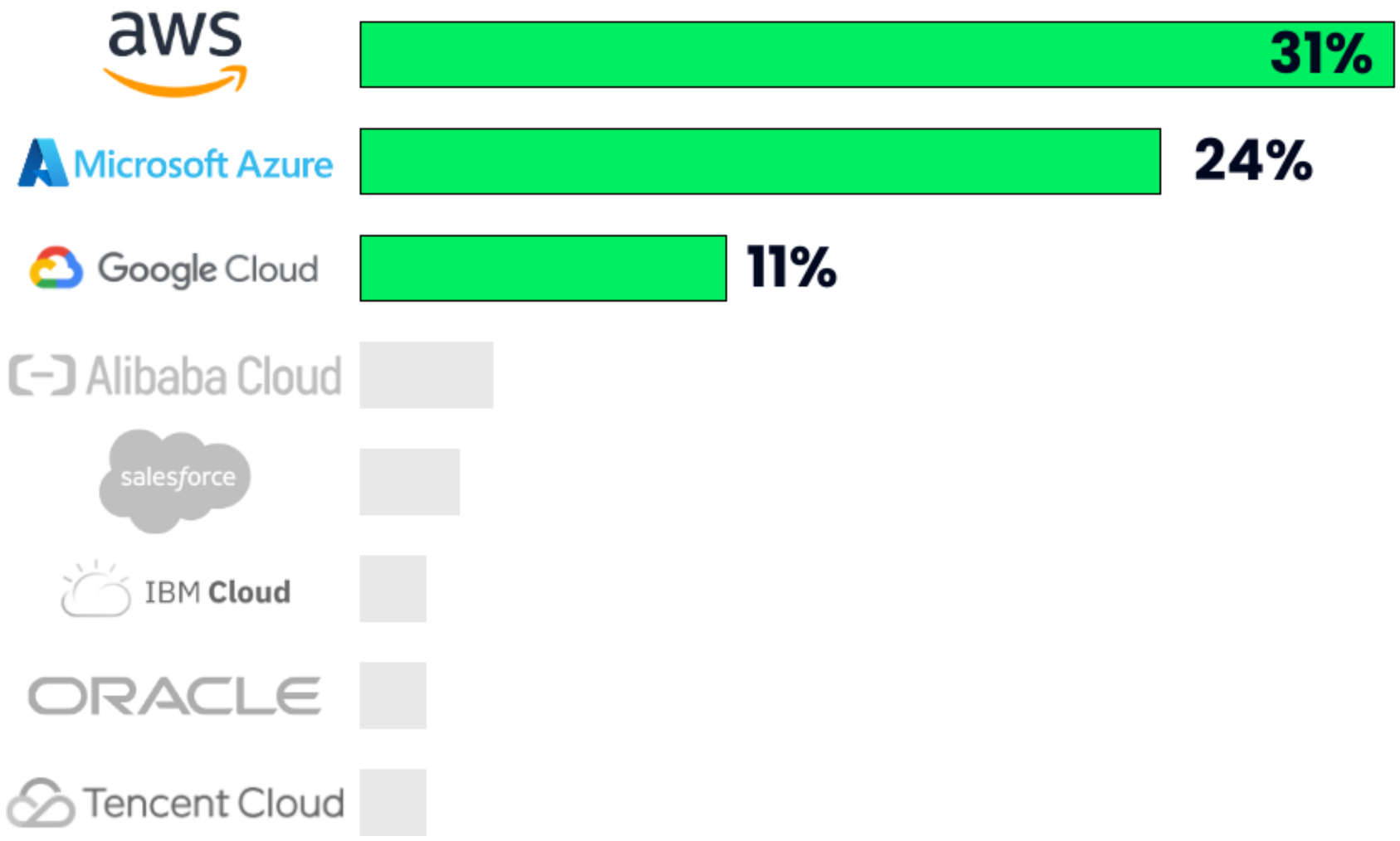

Tencent Cloud


IBM Cloud

Market share



Market share



The rise of cloud computing

- Cloud computing services vital for modern companies
- IaaS and PaaS offer significant benefits
- Enable agility, efficiency, innovation
- Reduce costs, focus on core business

Making a choice

- Best cloud provider meets company needs
- Leverage cloud specialists' knowledge
- Contact providers directly

Making a choice

- Consider current infrastructure and data center costs
- Evaluate costs for managing hardware and storage
- Assess costs for app depreciation, migration, or rebuild for cloud
- Consider hiring cloud specialists, benefits to company and customers, and potential cloud migration risks

Let's practice!

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Amazon Web Services

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AWS and the market

- AWS launched in **2006** (Google Cloud in **2008**, Microsoft Azure in **2010**)
- Breadth of services:
  - Computing
  - Storage
  - Analytics
  - Security and enterprise applications
  - Machine learning
- Market share: **31%**

AWS professional cloud services

AWS Simple Storage Service (S3)

AWS professional cloud services

AWS Simple Storage Service (S3)

AWS Elastic Compute Cloud (EC2)

AWS professional cloud services

AWS Simple Storage Service (S3)

AWS Elastic Compute Cloud (EC2)

AWS Relational Database Service (RDS)

AWS professional data services

- **Redshift** (analytics - data warehousing)

AWS Redshift

AWS professional data services

- **Redshift** (analytics - data warehousing)
- **Kinesis** (real time data movement and analytics)

AWS Redshift

AWS Kinesis

AWS professional data services

- **Redshift** (analytics - data warehousing)
- **Kinesis** (real time data movement and analytics)
- **SageMaker** (predictive analytics and machine learning)

AWS Redshift

AWS Kinesis

AWS SageMaker

AWS customers

AWS case study

Company: NerdWallet

Problem: Takes too long to deploy machine learning models

Solution:

- Amazon Sagemaker (cloud machine learning platform gathering machine learning processes)

AWS case study

Improvements:

- Reduce training times to days
- Reduce training costs by 75%
- Modernized data science engineering practices

[1] https://aws.amazon.com/solutions/case-studies/

Let's practice!

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Microsoft Azure

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Azure and the market

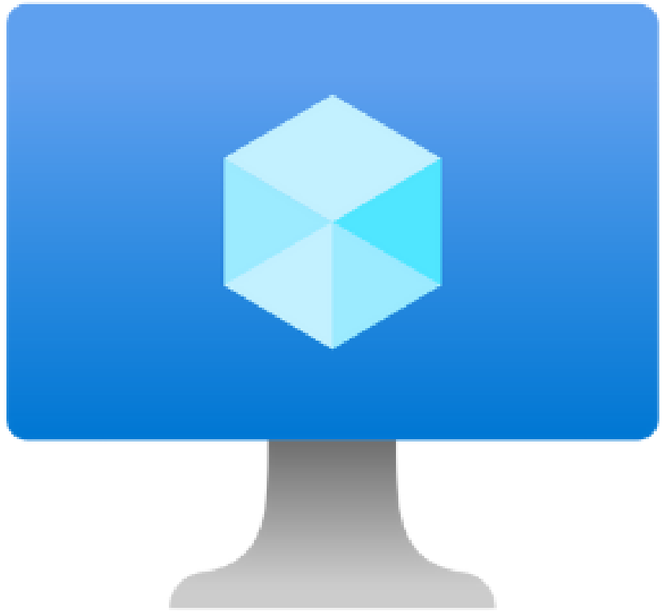
- Integration with Microsoft products
- Benefits from customer loyalty, top-of-mind choice
- Market share: **24%**

Azure cloud services

Azure Blob Storage

Azure cloud services

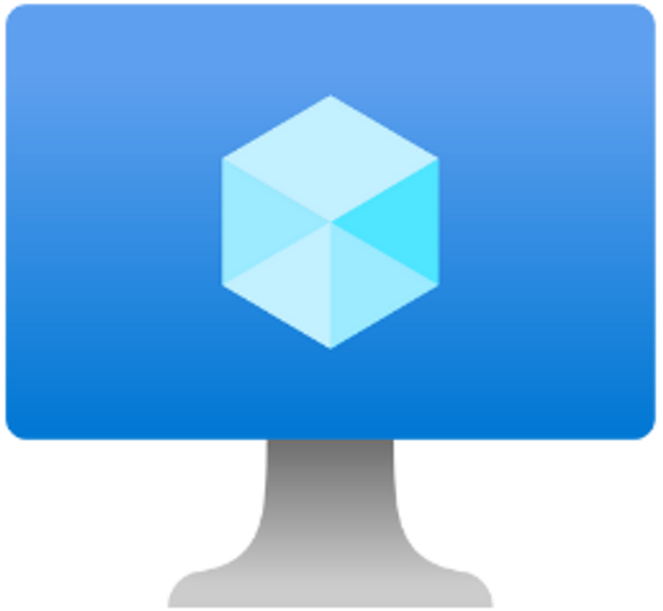
Azure Blob Storage



Azure Virtual Machines

Azure cloud services

Azure Blob Storage



Azure Virtual Machines

Azure SQL Database

Microsoft Fabric

- Integrates various Microsoft solutions for enterprise use
- Covers data movement, data science, real-time analytics, business intelligence
- A key service offering by Microsoft

Azure data services

- **Data Lake Storage** (store data before cleaning)

Data Lake Storage

Azure data services

- **Data Lake Storage** (store data before cleaning)
- **Stream Analytics** (real-time analytics)

Data Lake Storage

Stream Analytics

Azure data services

- **Data Lake Storage** (store data before cleaning)
- **Stream Analytics** (real-time analytics)
- **Machine Learning** (train and deploy machine learning models)

Data Lake Storage

Stream Analytics

Machine Learning

Azure customers

Azure case study

Organization: Ottawa Hospital

Needs: Cost-effective and secure disaster recovery solution (continue vital operations after a disaster)

Solution:

- Microsoft IaaS (secure, scalable environment)
- Azure Storage (medical imaging data)
- Azure Site Recovery (automatically deploy recovery processes)

Azure case study

Improvements:

- New secure, up-to-date, policy compliant disaster recovery site
- Compliant with data privacy regulations
- Saved ~50% on disaster recovery costs

[1] https://customers.microsoft.com/

Let's practice!

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Google Cloud

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Google Cloud and the market

Google Cloud

- Google Cloud Anthos
- Run hybrid multi-cloud solutions:
  - manage and deploy across several cloud providers
- Market share: **11%**

Google Cloud services

Google Cloud Storage

Google Cloud services

Google Cloud Storage

Google Cloud Compute Engine

Google Cloud services

Google Cloud Storage

Google Cloud Compute Engine

Google Cloud SQL

Google Cloud data services

- **Big Query** (data warehouse)

Google Cloud data services

- **Big Query** (data warehouse)
- **Dataflow** (batch and stream data processing)

Google Cloud BigQuery

Google Cloud Dataflow

Google Cloud data services

- **Big Query** (data warehouse)
- **Dataflow** (batch and stream data processing)
- **AutoML** (machine learning model training and development)

Google Cloud BigQuery

Google Cloud Dataflow

Google Cloud AutoML

Google Cloud customers

Google Cloud case study

Organization: Lush

Needs: Improve e-commerce platform availability and stability during peak loads

Solution:

- Migrate entire global infra to Google Cloud
- Google Cloud Compute Engine (quickly test and provision environments during migration)
- Customer and product data on Google Cloud SQL

Google Cloud case study

Improvements:

- No outage during Boxing Day
- 40% reduction in hosting costs
- Later deployed an image recognition app to provide information on their product and reduce plastic packaging on Google Cloud AI platform

LUSH

[1] https://cloud.google.com/customers/lush/

Let's practice!

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Congratulations!

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Chapter 1 - Introduction to cloud computing

- How cloud computing **works**
- Why it is **powerful**
- Main **service models** (IaaS, PaaS, SaaS)

Chapter 2 - Cloud strategies

- **Deployment models** (private, public, and hybrid)
- **Regulations**
- Cloud **roles**

Chapter 3 - The cloud infrastructure market

- Market's **major players**
- Their **offerings**
- Their **customers**

Next steps

- **Explore** further to find the right service for you
  - Talk with cloud expert
  - Explore the cloud provider websites
  - Get in touch with cloud providers

DataCamp's cloud-focused **courses**

- **Introduction to Azure**
- **Introduction to AWS**
- **Introduction to GCP**

Thank you!

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