AZURE CLOUD FOR EXECUTIVE LEADERSHIP

TEKsystems Global Services

WORKFORCE DEVELOPMENT

Content Usage Parameters

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LOGISTICS

Class Hours:

- Instructor will set class start and end times.
- There will be regular breaks in class.

Telecommunication:

- Turn off or set electronic devices to silent (not vibrate)
- Reading or attending to devices can be distracting to other students
- Try to delay until breaks or after class

Miscellaneous:

- Courseware
- Bathroom
- Fire drills

HI!

Jason Smith

Cloud Consultant with a Linux sysadmin background. Focused on cloud-native technologies: automation, containers & orchestration

Expertise

- Cloud
- Automation
- CICD
- Docker
- Kubernetes

INTRODUCE YOURSELF

Time to introduce yourself:

- Name you prefer
- Your professional background
- Current responsibilities
- Familiarity with (Azure) Cloud
- Expectations and goals for class

LABS

In this class, some labs are completed as teams.

The labs are intended as a collaborative exercise

COURSE OVERVIEW

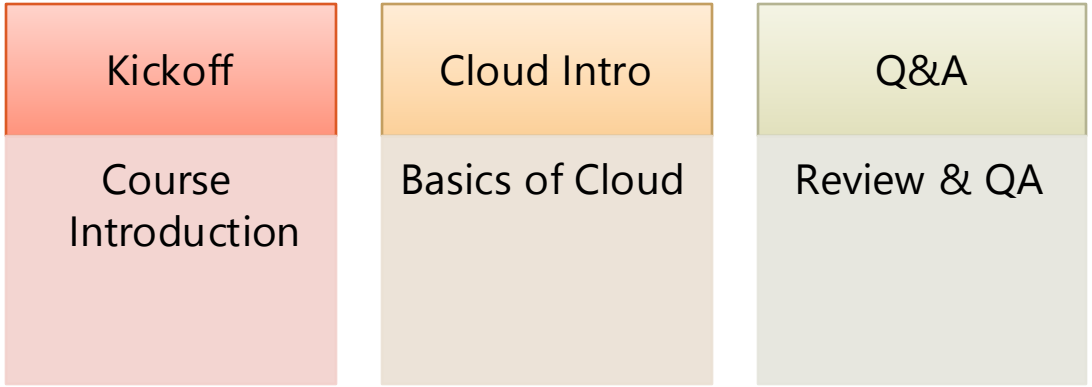
Overview of the 15-week, 60-hour bootcamp

Emphasis on aligning Cloud strategy with business objectives

Interactive activities, discussions, and hands-on simulations

Vision: Empowering leaders to leverage Cloud for innovation and ROI

Office hours every other week (1-hour)

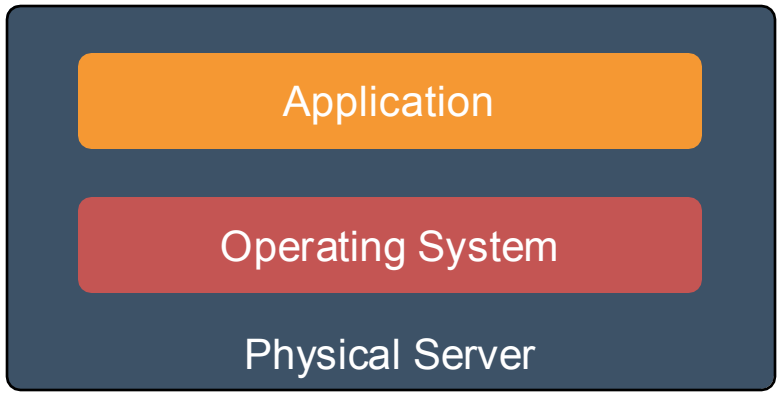


- Week 1-2: Introduction to Cloud Technology
- Week 3-5: Cloud Strategy and Architecture
- Week 6-7: Use Cases and Real-World Applications
- Week 8-9: Benefits and Value Proposition
- Week 10-12: Challenges and Risks
- Week 13-14: Interactive Simulations and Practical Exercises
- Week 15: Course Review and Final Assessment

DATA CENTER EVOLUTION

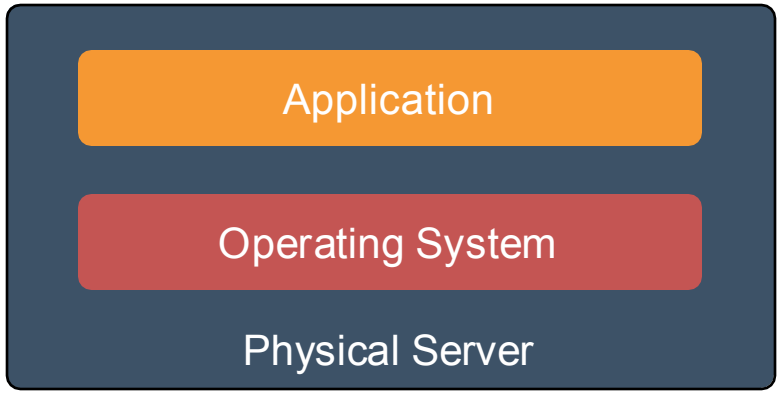
MONOLITHIC

MONOLITHIC SERVER ARCHITECTURE



One physical server, one application

MONOLITHIC SERVER ARCHITECTURE



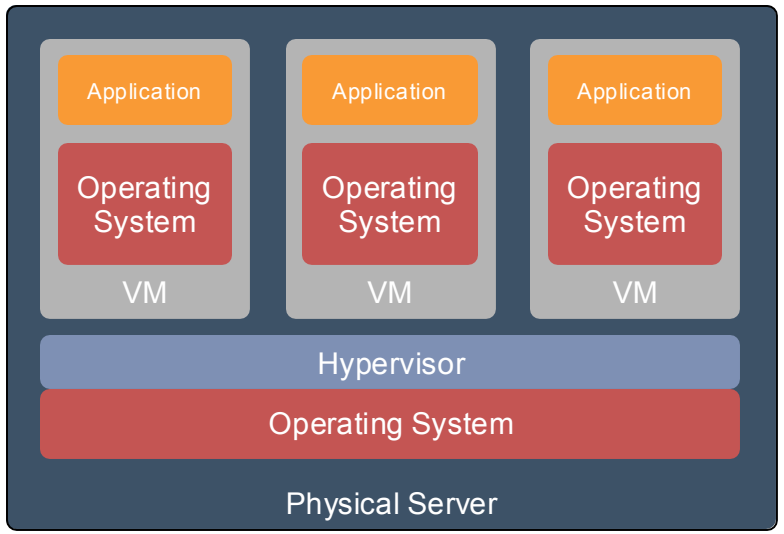
One physical server, one application

Problems

- Slow deployment times
- Cost
- Wasted resources
- Difficult to scale
- Difficult to migrate

VIRTUALIZED ARCHITECTURE

VIRTUALIZED ARCHITECTURE



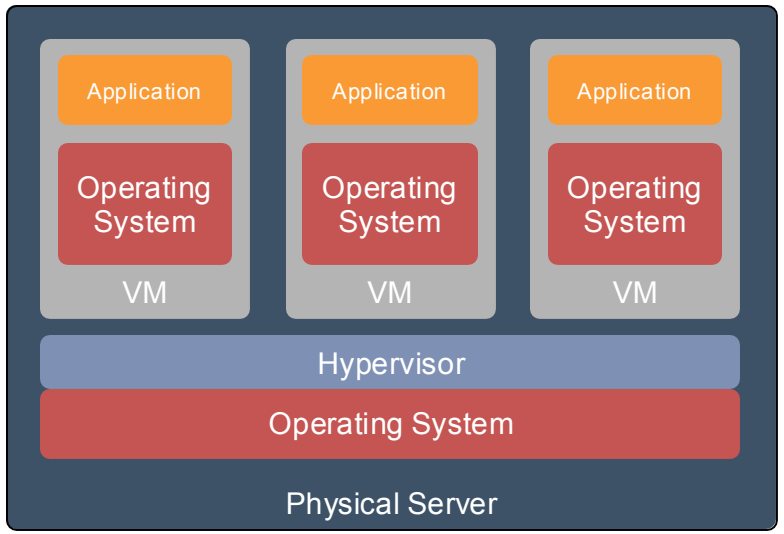
One physical server, multiple applications

POP QUIZ: DISCUSSION

What are some advantages of Virtual Machines?

VIRTUALIZED ARCHITECTURE

Monolithic → Virtualization



One physical server, multiple applications

Advantages

- Better resource pooling
- Easier to Scale
- **Enables Cloud/IaaS**
  - Rapid elasticity
  - Pay as you go model

POP QUIZ: DISCUSSION

What is cloud computing?

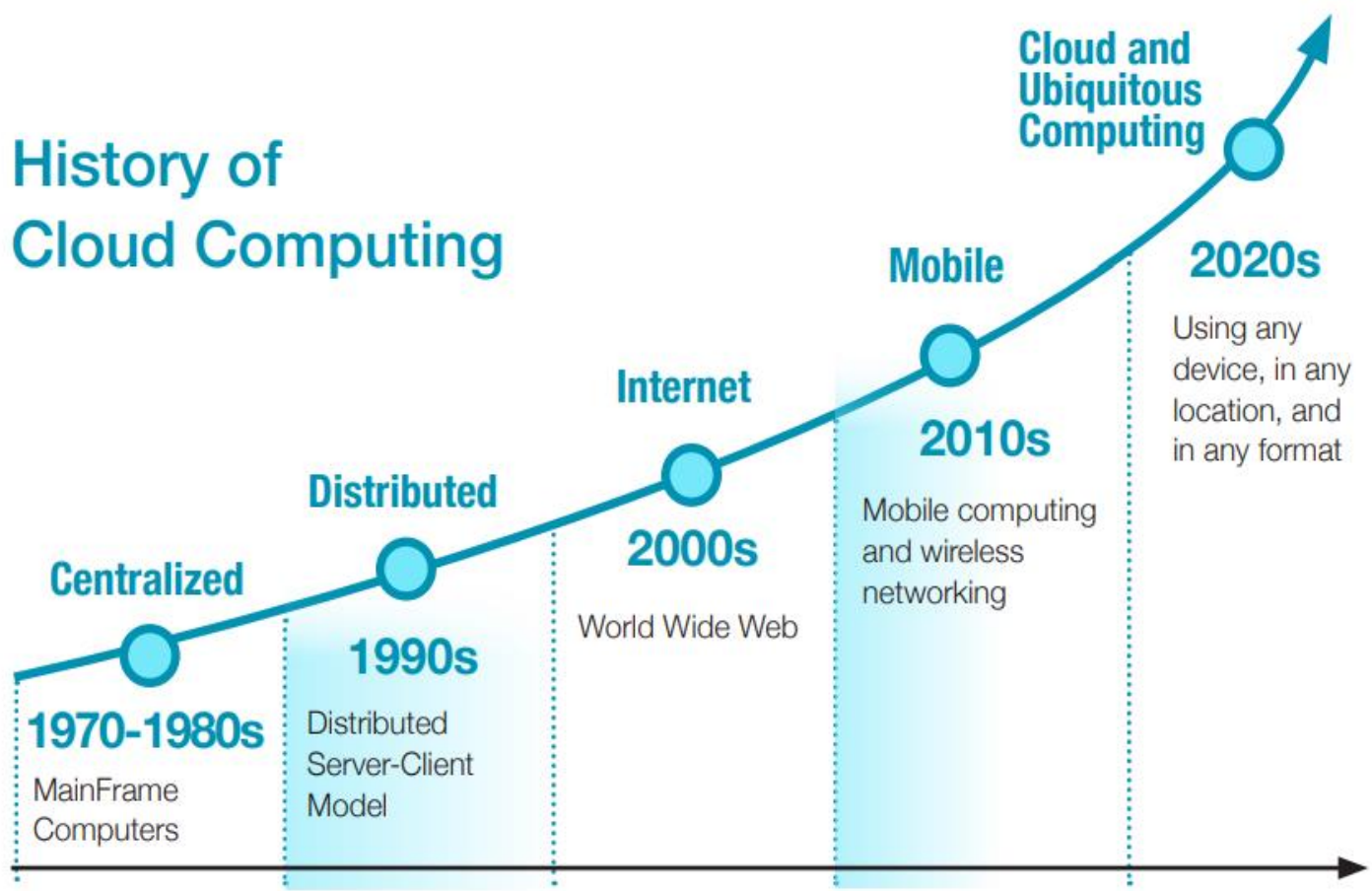
POP QUIZ: DISCUSSION

What is cloud computing?

Cloud computing is the on-demand delivery of IT resources over the internet, offering flexible and scalable solutions without significant up-front hardware investments. It has revolutionized how businesses operate, enabling them to access computing services as utilities—similar to electricity—paying only for what they use.

HISTORY OF CLOUD COMPUTING

The shift from centralized mainframes to globally distributed cloud services has redefined resource availability, cost efficiency, and scalability. Once reliant on costly, on-premises infrastructure, businesses now access on-demand computing power, reducing expenses and increasing flexibility. This evolution has streamlined IT operations and enabled real-time data processing and innovation on a global scale.



PUBLIC CLOUD

While numerous cloud vendors exist, the three dominant players—Amazon Web Services (AWS), Microsoft Azure, and Google Cloud Platform (GCP)—offer a comprehensive suite of services, global data center coverage, and robust security features. They're often the top choices for large-scale enterprise solutions.

- AWS: First to market, broadest range of services
- Azure: Deep integration with Microsoft products, strong hybrid capabilities
- GCP: Advanced in data analytics and AI/ML

DigitalOcean rackspace

PUBLIC CLOUD - AWS

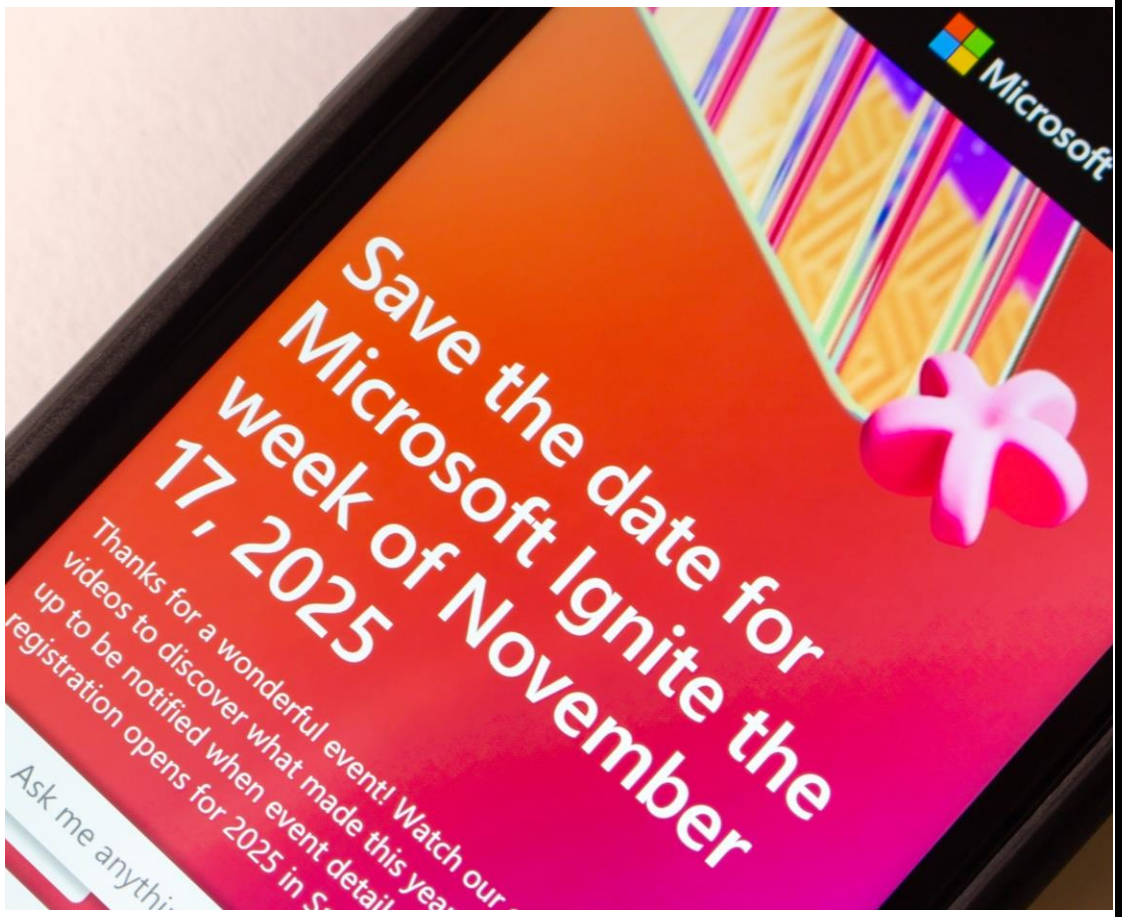
Amazon Web Services pioneered modern cloud computing and continues to lead in market share. It has a massive range of services, from compute and storage to machine learning and analytics.

- Strengths: Market maturity, extensive ecosystem, wide service range
- Challenges: Complex pricing, steep learning curve for advanced services
- Case Study: Netflix leverages AWS for global streaming, scaling resources based on demand peaks

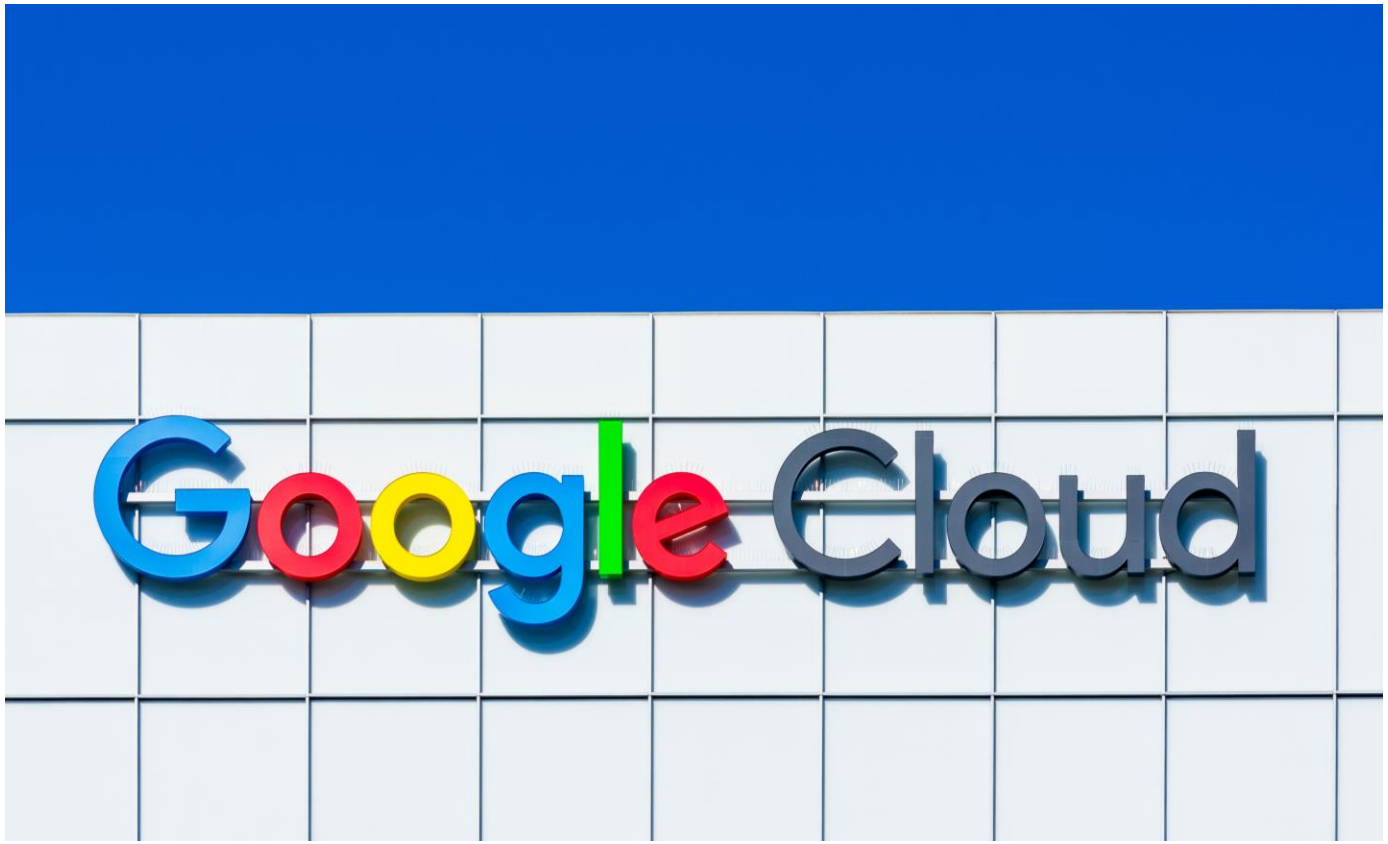
PUBLIC CLOUD - AZURE

Azure is Microsoft's cloud platform, offering seamless integration with Windows Server, Active Directory, and Office 365. It excels in hybrid cloud scenarios due to Microsoft's enterprise presence.

- Strengths: Familiarity for Windows-centric shops, integrated developer tools (Visual Studio, GitHub)
- Challenges: Licensing complexities, reliance on Microsoft ecosystem
- Case Study: Fortune 500 companies use Azure to integrate on-prem data centers with the cloud



PUBLIC CLOUD - GCP



Google Cloud Platform leverages Google's expertise in analytics and AI, offering services like BigQuery for data warehousing and TensorFlow for machine learning. Although it has a smaller market share, it is steadily growing.

- Strengths: Advanced ML/AI tools, fast networking, strong Kubernetes support
- Challenges: Less enterprise legacy integration vs. AWS/Azure
- Case Study: Spotify uses GCP's data analytics to deliver real-time recommendations

WHY BUSINESSES CARE

From a leadership standpoint, cloud adoption can significantly impact competitive advantage.

Faster time-to-market, pay-as-you-go pricing, and global accessibility enable organizations to focus on strategic growth.

It's not just a technical shift—it's a business transformation.

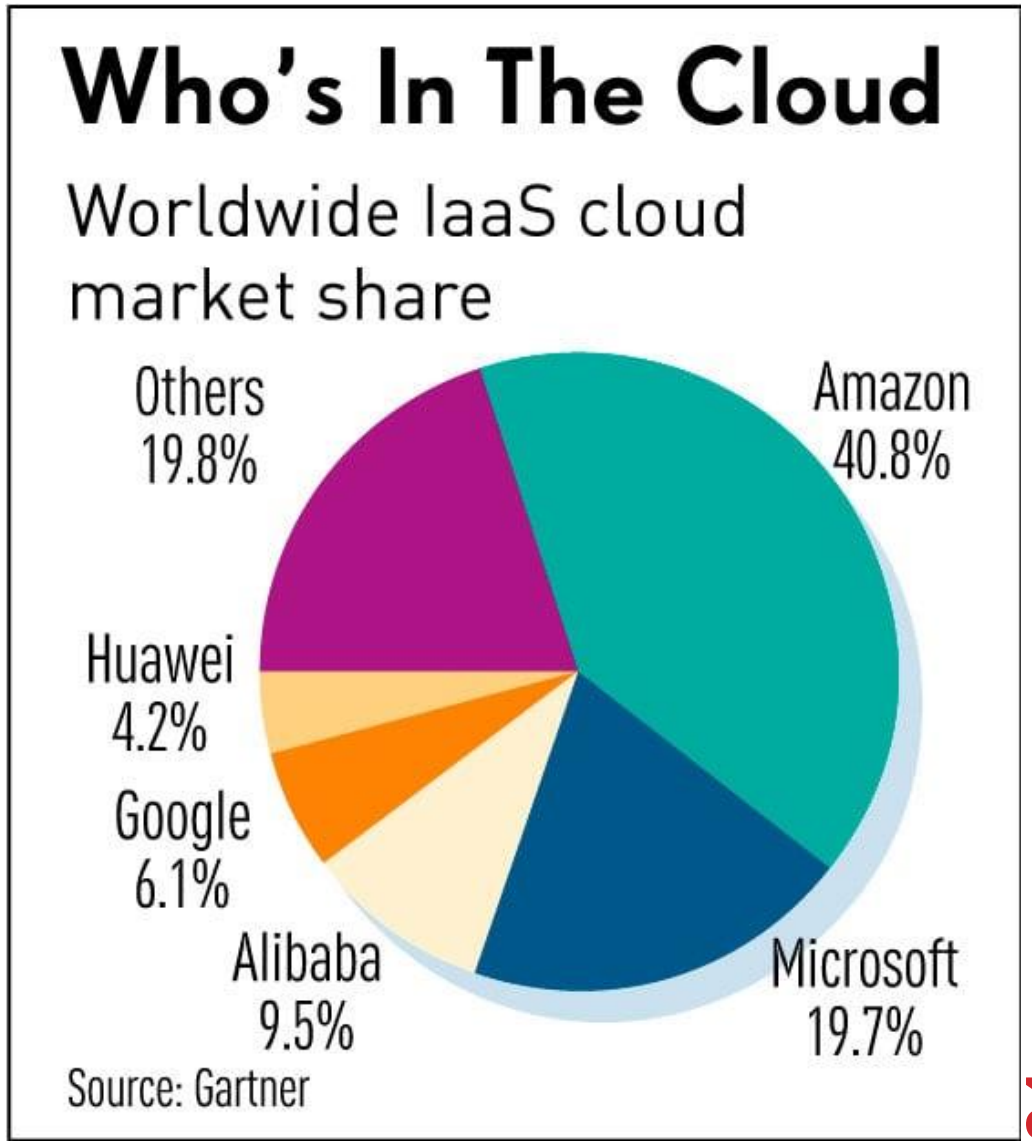
Key drivers:

- Business agility and faster innovation
- Reduced capital expenditure (CapEx)
- Ability to pivot quickly in volatile markets

CLOUD MARKET SHARE (2020)

In 2020, Amazon dominated the global cloud market with a 40.8% share, significantly ahead of its competitors. Microsoft followed at 19.7%, with Google trailing behind at 6.1%. The remaining 19.8% was shared among other providers.

Amazon's leadership in the cloud space reflected its early market entry, broad service offerings, and extensive global infrastructure, positioning it as the preferred choice for enterprises seeking scalable and reliable cloud solutions.

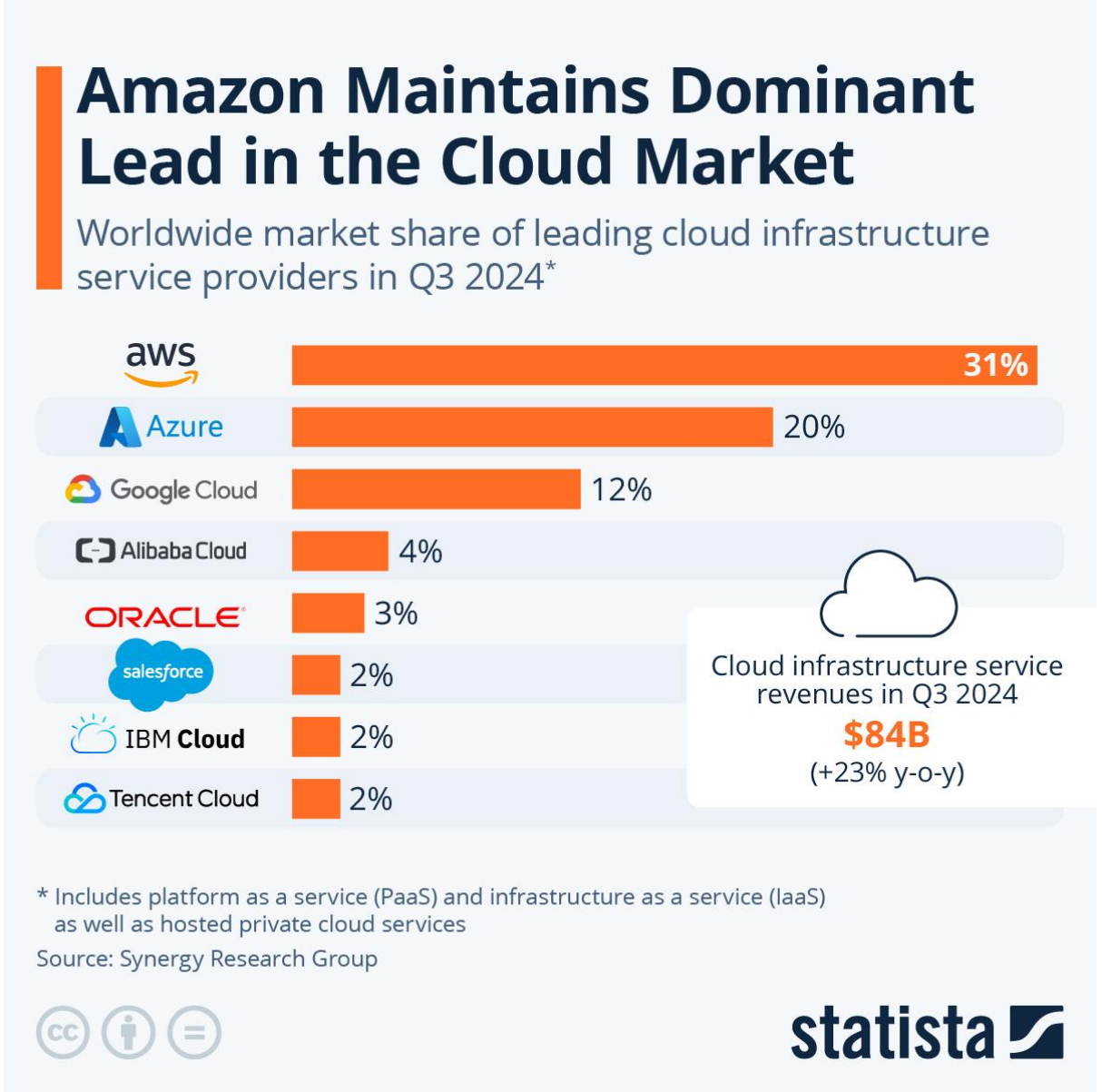


CLOUD MARKET SHARE (2025)

Cloud adoption is accelerating across all sectors.

While AWS remains the leader with an estimated 33–35% market share, Azure is closing the gap, and GCP invests heavily in AI/ML to differentiate itself.

- AWS: ~33–35%
- Azure: ~20–25%
- GCP: ~10% (growing)
- Others: IBM, Oracle, Alibaba, etc. capture the remainder



POP QUIZ: DISCUSSION

What are some characteristics of Infrastructure as a Service?

POP QUIZ: DISCUSSION

What are some characteristics of Infrastructure as a Service?

- **On-demand computing**
- **Highly customizable**
- **More security responsibility**

IAAS

- Infrastructure-as-a-Service (IaaS)
  - Standard Offering
  - Automated
  - Self Provision
  - API

POP QUIZ: DISCUSSION

What are some characteristics of Platform as a Service?

POP QUIZ: DISCUSSION

What are some characteristics of Platform as a Service?

- **Pre-configured Development Environment**
- **Moderately customizable**
- **Reduced responsibility for security and scalability**

PAAS

- Platform-as-a-Service (PaaS)
  - Deployment environment
  - SDKs
  - Quick
  - API

POP QUIZ: DISCUSSION

What are some characteristics of Software as a Service?

POP QUIZ: DISCUSSION

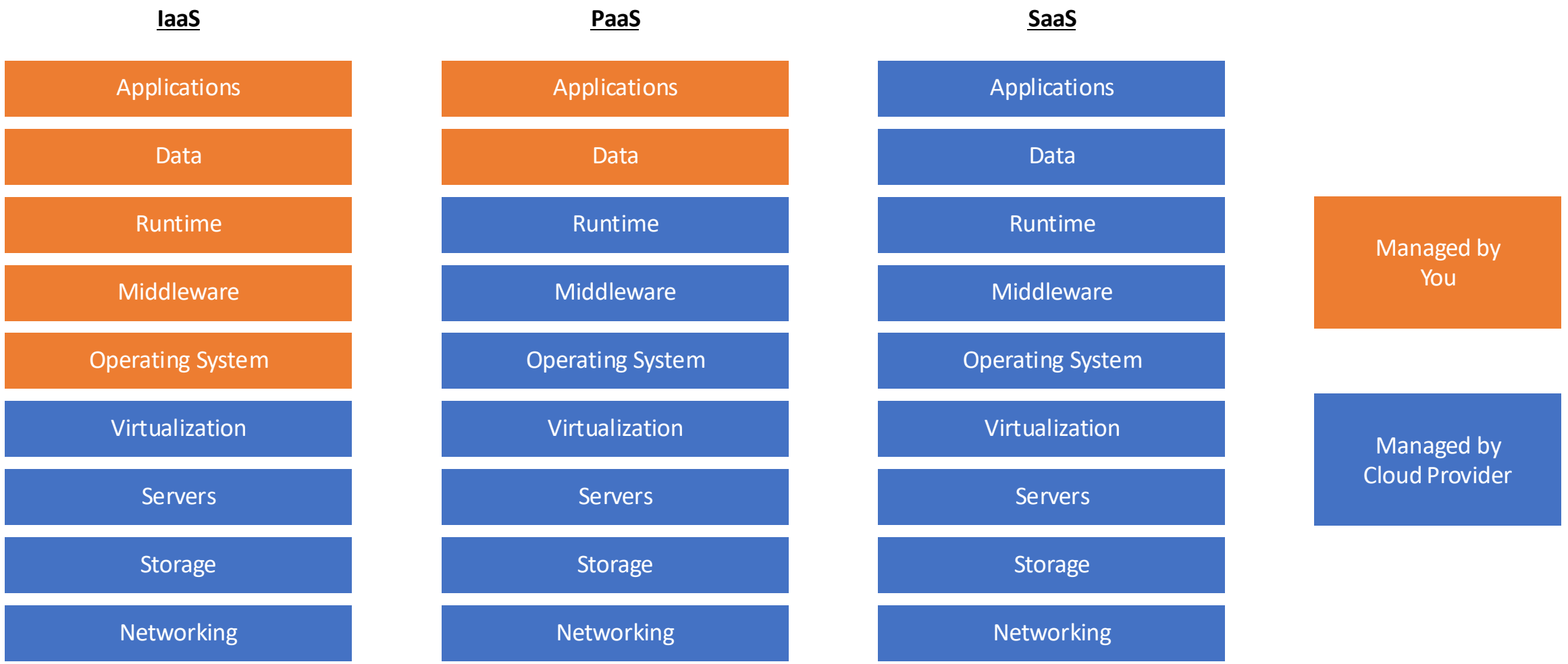
What are some characteristics of Software as a Service?

- **Fully managed software solution**
- **Minimal customization options**
- **Least responsibility for security and maintenance**

SAAS

- Software-as-a-Service (SaaS)
  - Cloud application services
  - Dropbox
  - Salesforce
  - Spotify
  - Evernote

IAAS, PAAS, SAAS VISUALIZED



THE CLOUD REVOLUTION

Defining Cloud Computing

- Cloud computing provides access to computing resources over the internet, enabling businesses to scale without physical infrastructure.

Benefits of cloud technology

- Scalability, flexibility, cost savings, and access to a vast array of services.

Key components

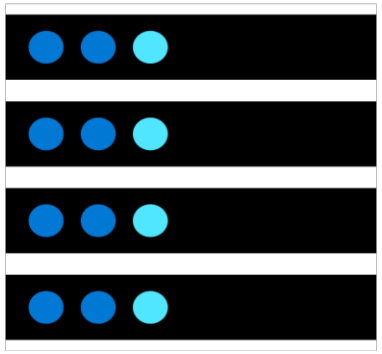
- Compute, storage, networking.

Business continuity and disaster recovery

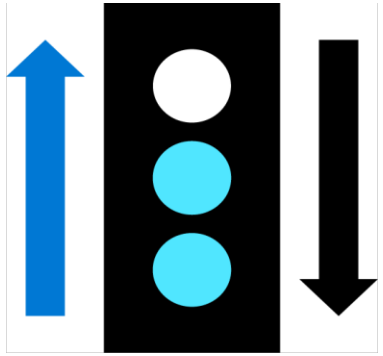
- Ensures data resilience and high availability, which are critical in maintaining operational integrity.

KEY CLOUD COMPONENTS

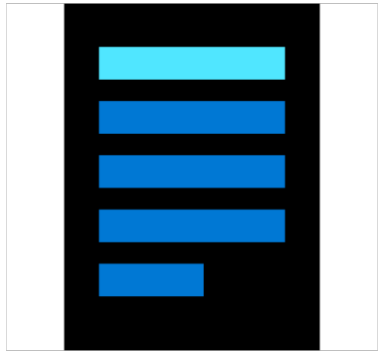
Cloud Computing: The delivery of computing services over the internet, enabling faster innovation, flexible resources, and economies of scale.



Compute



Networking



Storage

Security/Compliance

TYPES OF CLOUD DEPLOYMENTS

Public Cloud

- Shared infrastructure accessible over the internet, owned by a cloud provider.

Private Cloud

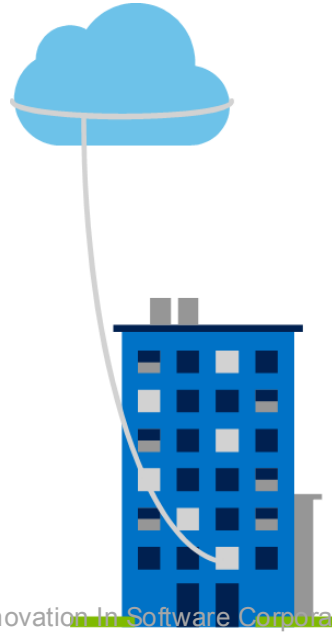
- Dedicated infrastructure for a single organization, providing greater control over resources.

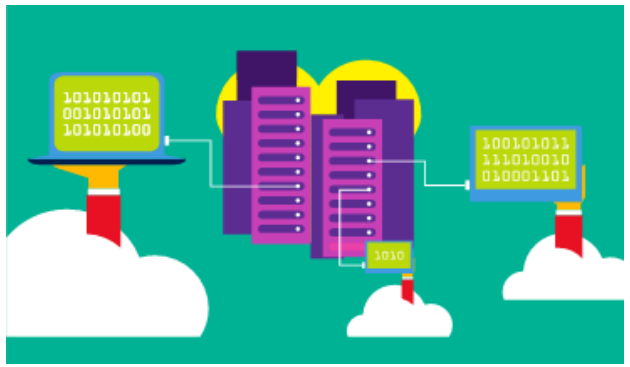
Hybrid Cloud

- Combines both public and private cloud elements, allowing businesses to run workloads on-premises and in the cloud.

Multi-Cloud Strategy

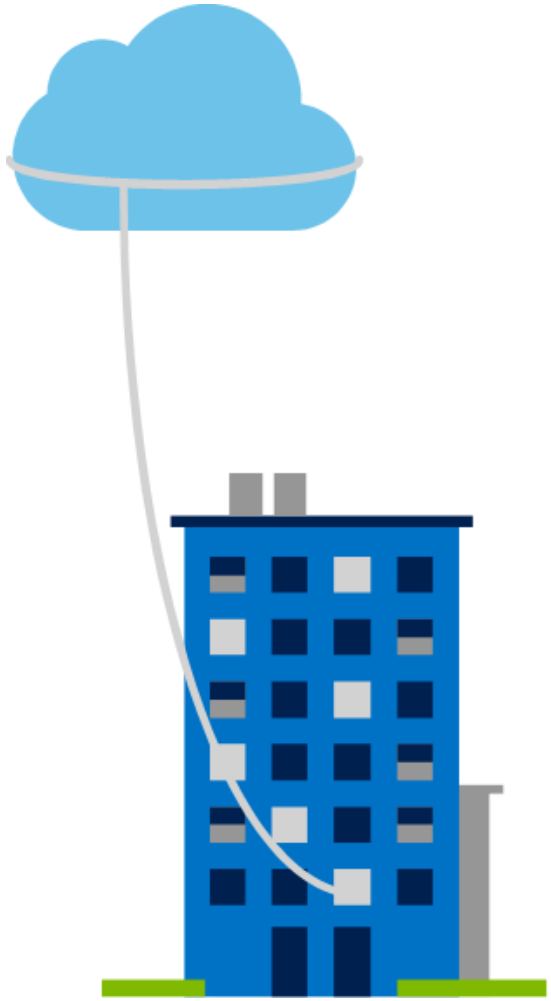
- Integration across multiple providers for resilience and choice.





PRIVATE CLOUD

- **Dedicated Infrastructure**
  - Exclusive resources for a single organization.
- **Enhanced Security**
  - Tight access controls and data protection.
- **Compliance and Control**
  - Customizable to meet regulatory standards.
- **On-Premises or Hosted**
  - Flexible deployment options based on organizational needs.

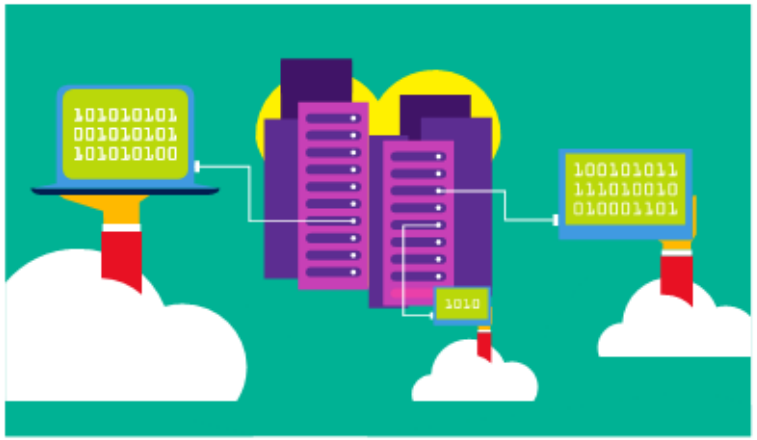


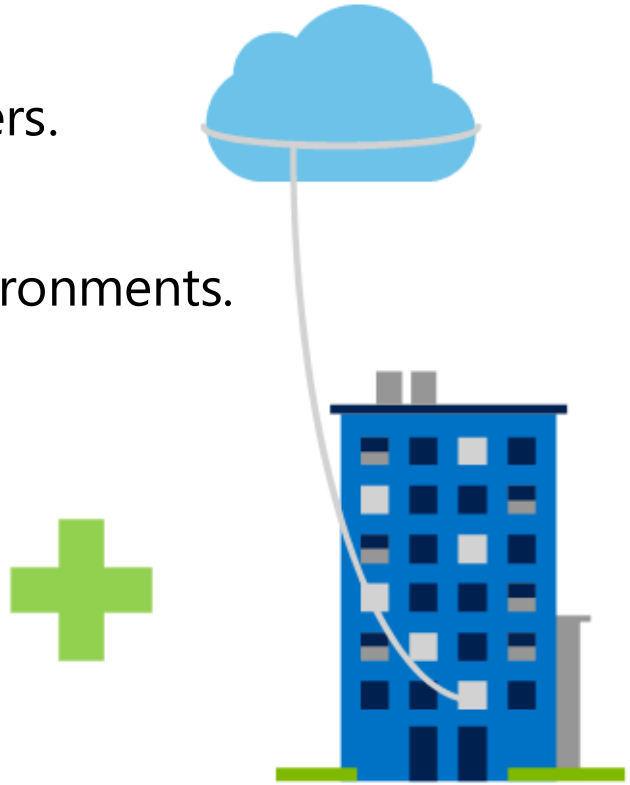
PUBLIC CLOUD

- **Shared Infrastructure**
  - Resources hosted and maintained by cloud providers.
- **Cost Efficiency**
  - Lower costs with pay-as-you-go pricing.
- **High Scalability**
  - Rapidly expand or reduce resources based on demand.
- **Managed Services**
  - Comprehensive support and maintenance by providers.

HYBRID CLOUD

- **Mixed Deployment**
  - Combines on-premises, private, and public cloud resources.
- **Flexibility and Control**
  - Allows data and workloads to reside in optimal environments.
- **Enhanced Security Options**
  - Secure, compliant solutions by integrating private data centers.
- **Seamless Data Flow**
  - Ensures data consistency and smooth operations across environments.

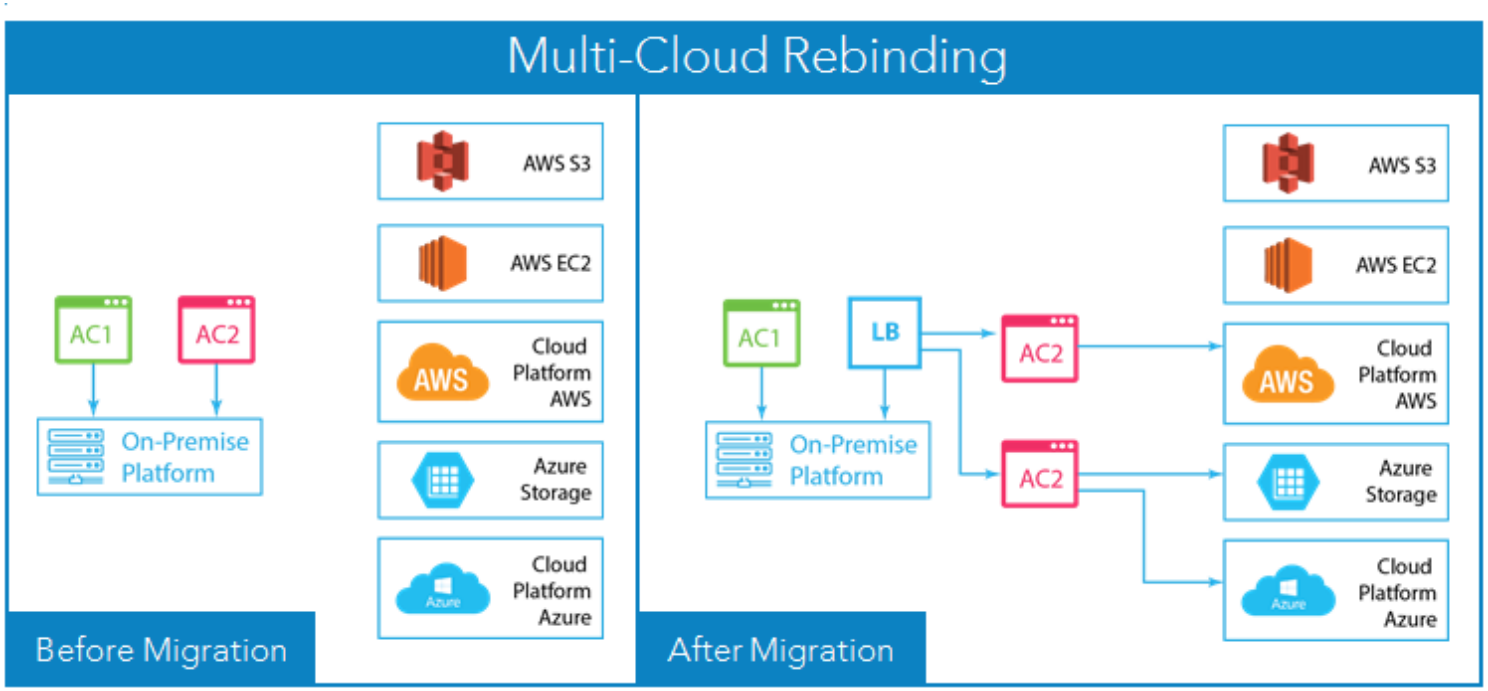




MULTI - CLOUD

Many enterprises adopt multi-cloud strategies to avoid vendor lock-in and optimize costs.

- Ensures flexibility but adds management complexity
- Best Practices: Common governance framework, consistent security policies across clouds



COMMON CLOUD MISCONCEPTIONS

Despite widespread adoption, myths persist about cloud computing. Executives must address these head-on to shape realistic expectations and gain organizational buy-in.

- "Cloud is always cheaper": Costs can rise if resources aren't managed
- "We'll lose all control": Proper governance ensures control and security
- "Migration is quick and easy": Requires careful planning, refactoring, and training

CLOUD ECONOMICS

Cloud providers charge for compute, storage, and data transfer based on usage. While this can lead to savings, costs can escalate if resources aren't carefully managed.

Governance strategies—like setting budgets and analyzing usage patterns—are crucial.

Key Elements:

- Compute Costs: Instance hours, container usage, serverless calls
- Storage Costs: Data retention, snapshots, backups
- Data Transfer: Ingress is often free, egress can be costly

POP QUIZ: DISCUSSION

Divide into small groups. Each group lists three ways your organization could cut costs by migrating a core app to the cloud. Share one key cost-saving idea with the class after your discussion.

Focus Questions:

- Which app components are best suited for immediate migration?
- How can we leverage auto-scaling or reserved instances effectively?
- What governance policies should we implement?

10 MINUTES

CLOUD ADOPTION: A LEADERSHIP PERSPECTIVE

Developing a cloud adoption strategy

- Leadership should prioritize initial workloads, balancing cost-effectiveness with operational needs and aligning them with business goals.

Aligning cloud initiatives with business goals

- Cloud adoption should support objectives such as cost optimization, customer experience improvement, and innovation.

Overcoming challenges

- Leaders must address concerns like security risks and internal resistance by fostering open communication, offering training, and setting clear objectives.

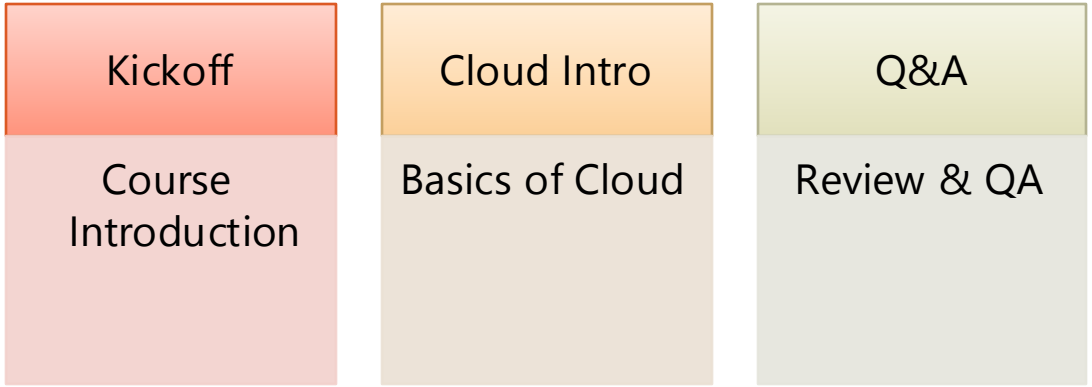
Ensuring a phased approach

- A phased implementation can help mitigate risks, allowing for testing, adjustments, and improvements in manageable stages.

COURSE REVIEW

We covered the foundational elements of cloud computing (definition, history, service models) and examined key benefits (cost savings, scalability, global reach, innovation). Along the way, we integrated real-world examples to illustrate these concepts in practice.

- Cloud Overview: IaaS, PaaS, SaaS, main providers
- Benefits: Cost savings, scalability, global reach, innovation
- Interactive Discussion: Uncovered current knowledge, set expectations



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Q&A AND OPEN DISCUSSION


THANK
YOU