DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

AWS CLOUD VIRTUAL INTERNSHIP

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WHAT IS CLOUD COMPUTING?

Cloud computing is the on-demand delivery of compute power, database storage, applications, and other IT resources through a cloud services platform via the internet, with pay-as-you-go pricing.

The cloud is comprised of server computers located in large data centers in different locations around the world. When you use a cloud service like Amazon Web Services (AWS), you are utilizing the computers owned by AWS. AWS is a cloud services provider.

The computers contain various technology features and services, like building blocks, that can be used to assemble solutions that help a user meet their business goals and technology requirements. With cloud computing, organizations can consume on-demand computing and storage resources rather than building, operating, and improving infrastructure on their own.

BEFORE VS AFTER CLOUD COMPUTING

Cloud computing enables you to stop thinking of your infrastructure as hardware, and instead think of it (and use it) as software.

Hardware solutions are **physical.**
This means they require:

- Space
- Staff
- Physical security
- Planning
- Capital expenditure

Software is flexible.
If your needs change, your software can change much more quickly, easily, and cost-effectively than your hardware.

THREE MODELS OF CLOUD COMPUTING

Infrastructure As A Service (IaaS)

With **IaaS**, you manage the server, which can be physical or virtual, as well as the operating system (Windows or Linux).

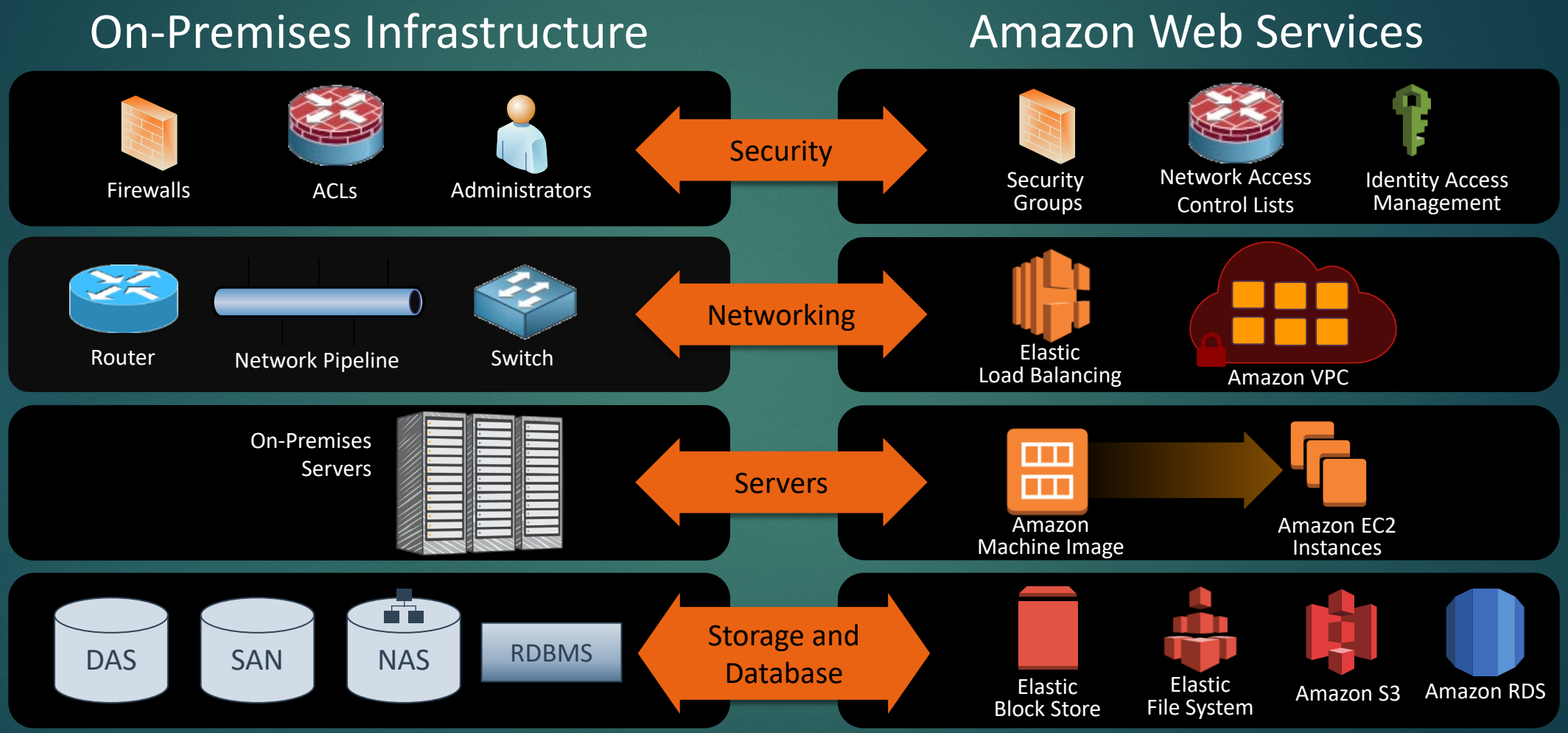
Platform As A Service (PaaS)

With **PaaS,** applications run without managing underlying infrastructure. It also provides a framework for developers that they can build upon to create customized applications.

Software As A Service (SaaS)

With **SaaS,** you manage your files, while the service provider takes care of all of the data centers, servers, networks, storage, maintenance, patching, etc. Example: Facebook and Dropbox

ON-PREMISES AND AWS COMPARISON



AWS CORE SERVICES

Compute

Amazon EC2

AWS Lambda

Auto Scaling

AWS Elastic Beanstalk

Amazon Elastic Container Registry

Amazon Elastic Container Service

Amazon Lightsail

AWS Batch

Networking

Amazon VPC

Amazon Route 53

AWS Direct Connect

Elastic Load Balancing

Storage

Amazon S3

Amazon EBS

Amazon CloudFront

Amazon Glacier

Amazon Elastic File System

AWS Snowball

Storage Gateway

AWS Snowmobile

Database

Amazon RDS

Amazon DynamoDB

Amazon Redshift

AWS Database Migration Service

Amazon ElastiCache

ADVANTAGES OF CLOUD COMPUTING

Trade **capital expense** for **variable expense**.

Benefit from **massive economies of scale**.

Eliminate guessing on your capacity needs.

Increase **speed** and **agility**.

Stop spending money to run and maintain data centers.

Go global in minutes.

SUMMARY

- Cloud computing is the on-demand delivery of IT resources online with pay-as-you-go pricing.

- Three models of cloud computing are:
  1. Infrastructure as a Service (IaaS)
  2. Platform as a Service (PaaS)
  3. Software as a Service (SaaS)

- Cloud services are available to replace traditional on-premises computing activities.

- Explored AWS core services

- Described the advantages of cloud computing