Cloud 001 - An Introduction to Cloud Computing ..

Asst. Prof. - Ashwini Kumar Mathur
FET Jain University, Bangalore, India

Goals

List of Content ..

Define Cloud

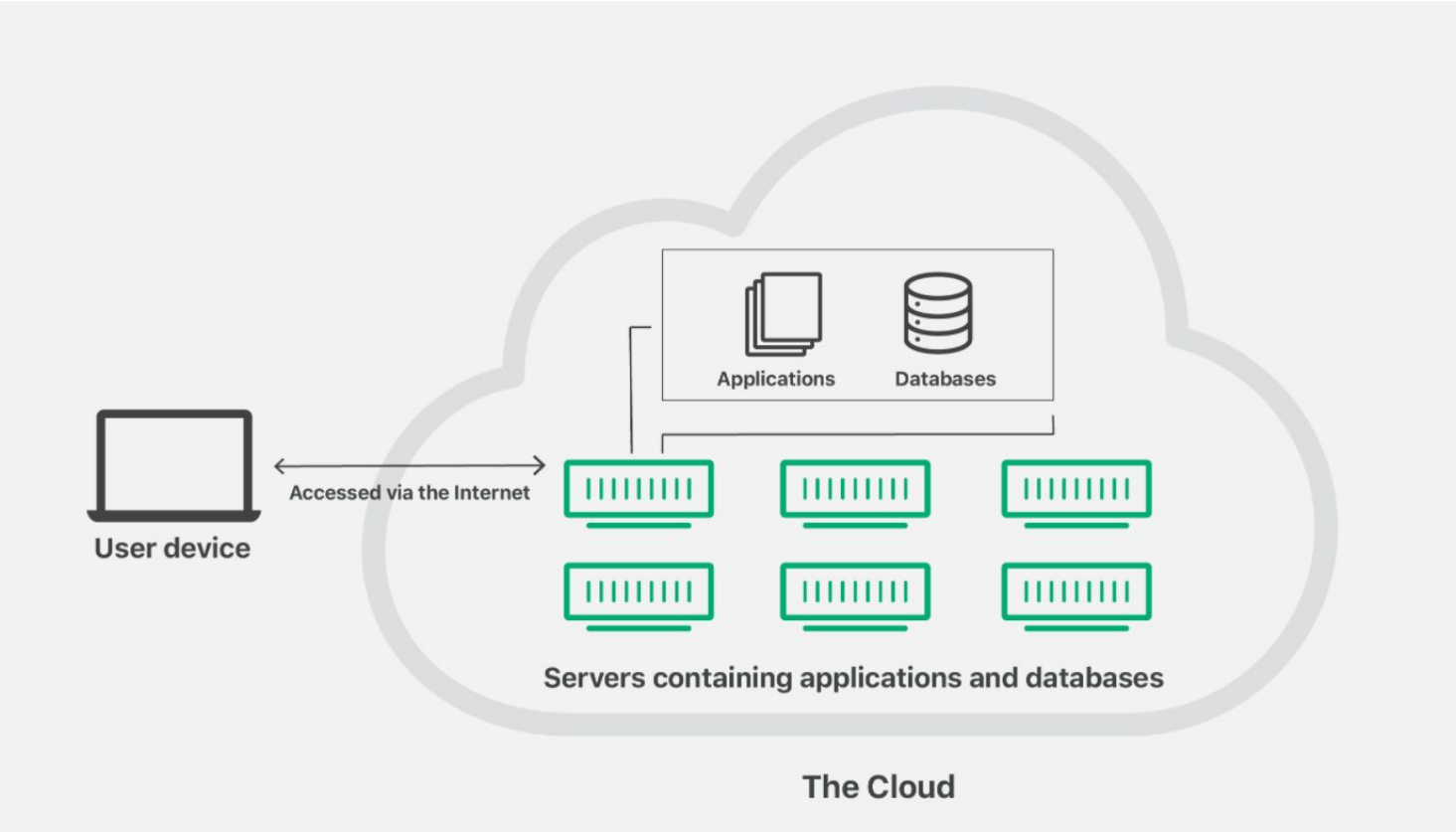
Compare Cloud vs on premises

State the benefits of Cloud

What is Cloud ?

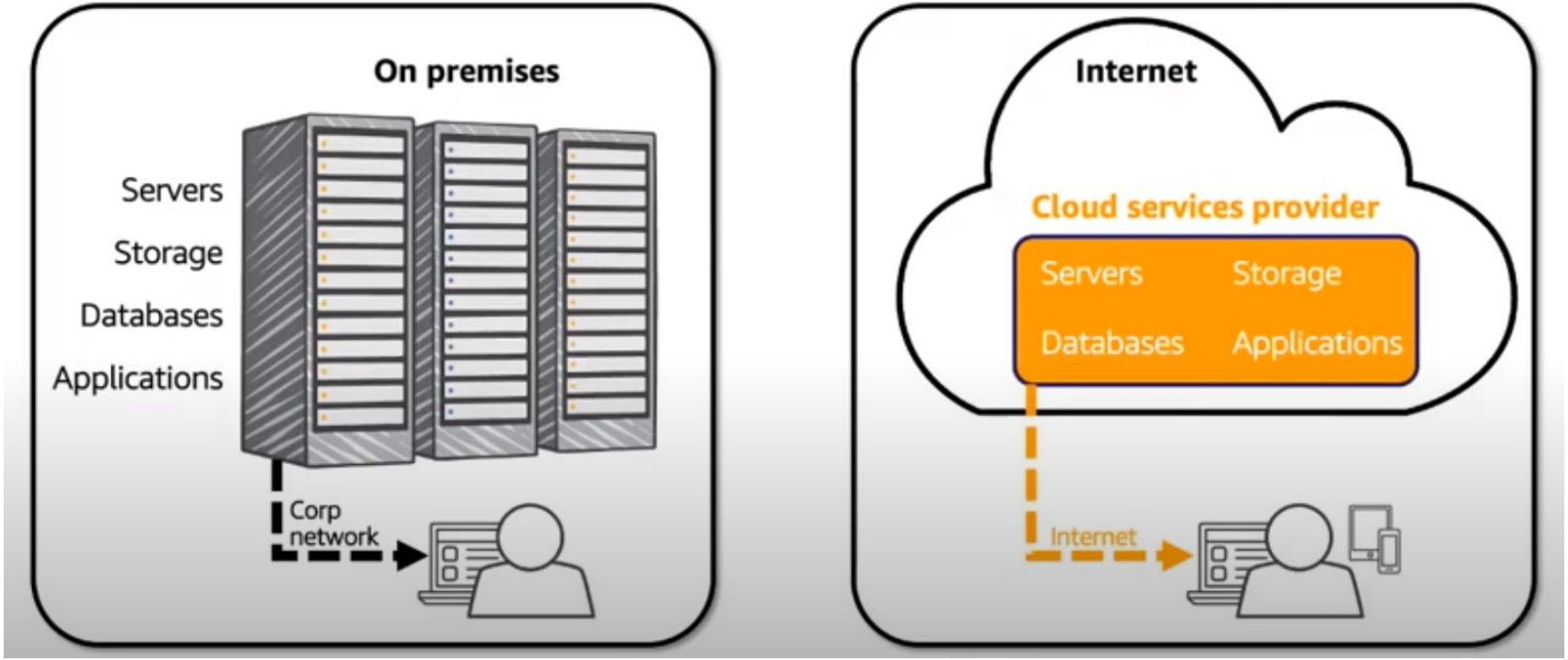
"The cloud" refers to **servers** that are **accessed over the Internet**, and the software and databases that run on those servers.

Cloud **servers are located in data centers** all over the world. By using cloud computing, users and **companies don't have to manage physical servers** themselves or run software applications on their own machines.



https://www.cloudflare.com/learning/cloud/what-is-the-cloud/

What is **Cloud** ?



Source image: @AWS corporation

Benefits of Cloud Computing

Six core advantages of cloud computing ..

#1. Trade capital expense for variable expense – Instead of having to invest heavily in data centers and servers before you know how you're going to use them, you can pay only when you consume computing resources, and pay only for how much you consume.

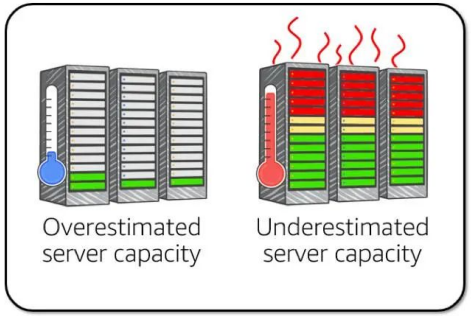
Source image: https://www.whoa.com/saving-on-capital-expenses-with-a-cloud-business-solution/

#2

Benefit from massive economies of scale – By using cloud computing, you can achieve a lower variable cost than you can get on your own. Because usage from hundreds of thousands of customers is aggregated in the cloud, providers such as AWS can achieve higher economies of scale, which translates into lower pay as-you-go prices.

#3

Stop guessing capacity – Eliminate guessing on your infrastructure capacity needs. When you make a capacity decision prior to deploying an application, you often end up either sitting on expensive idle resources or dealing with limited capacity. With cloud computing, these problems go away. You can access as much or as little capacity as you need, and scale up and down as required with only a few minutes' notice.



Source image: AWS Cloud Basics

#4

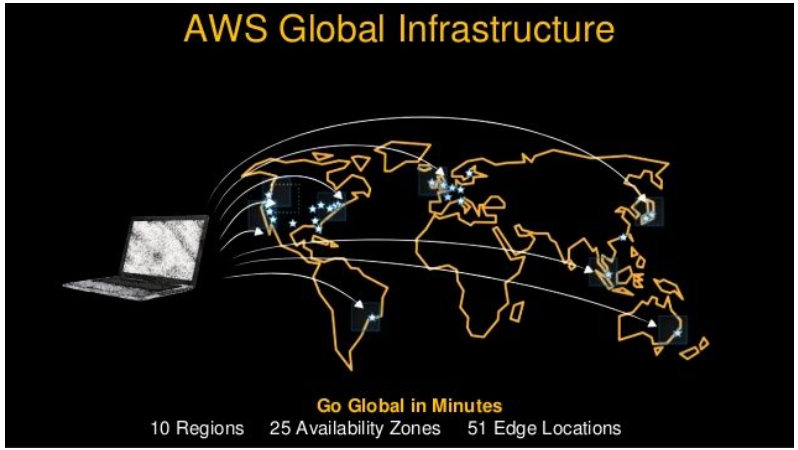
Increase speed and agility – In a cloud computing environment, new IT resources are only a click away, which means that you reduce the time to make those resources available to your developers from weeks to just minutes. This results in a dramatic increase in agility for the organization, since the cost and time it takes to experiment and develop is significantly lower.

#5

Stop spending money running and maintaining data centers – Focus on projects that differentiate your business, not the infrastructure. Cloud computing lets you focus on your own customers, rather than on the heavy lifting of racking, stacking, and powering servers.

#6

Go global in minutes – Easily deploy your application in multiple regions around the world with just a few clicks. This means you can provide lower latency and a better experience for your customers at minimal cost.



Source image: Amazon Web Services/go-global-right-now-yes-now

Types of Cloud Computing ..

Overview

Cloud computing provides developers and IT departments with the ability to focus on what matters most and avoid undifferentiated work such as procurement, maintenance, and capacity planning.

Source image: https://www.cio.co.ke/wp-content/uploads/2018/03/Google-Drive.jpg

Understanding the needs of different user

As cloud computing has grown in popularity, several different models and deployment strategies have emerged to help meet specific needs of different users. Each type of cloud service and deployment method provides you with different levels of control, flexibility, and management.

Specific Needs of users ??

Users Needs

1. Infrastructure
2. Platform
3. Software

Cloud Computing Models

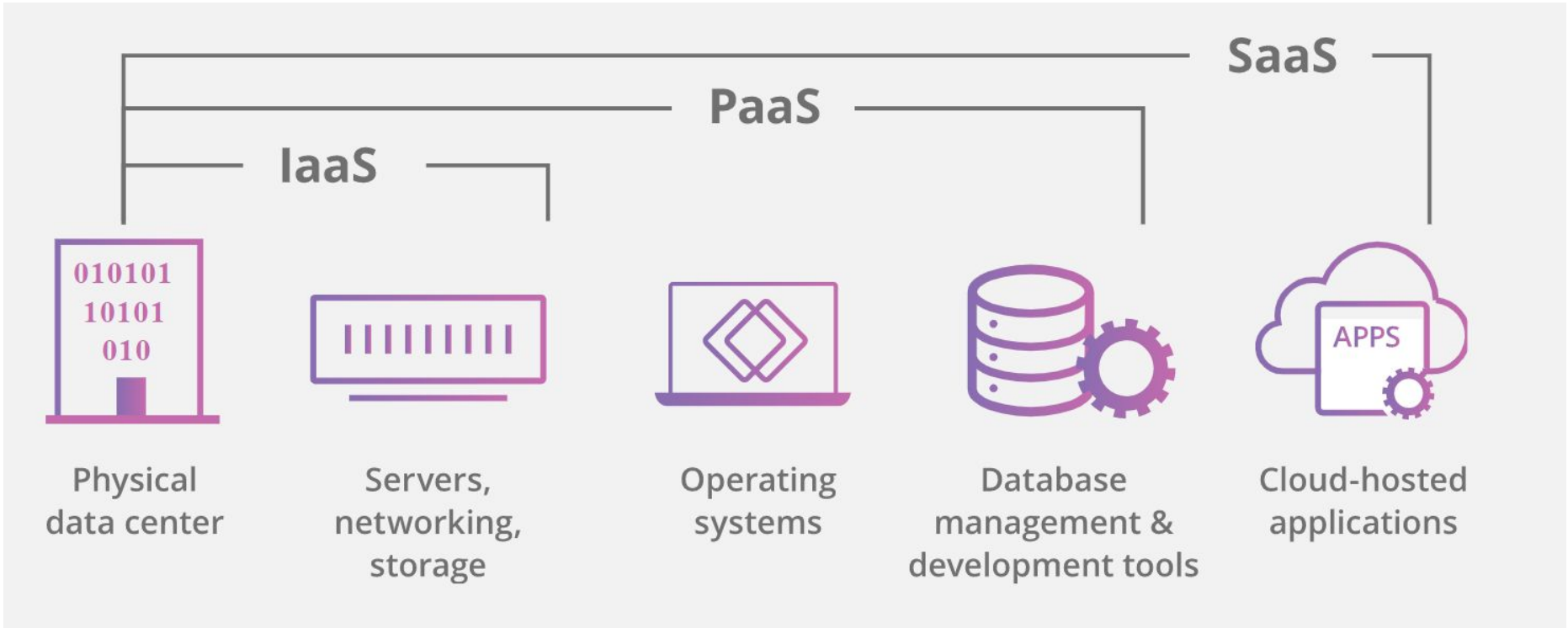
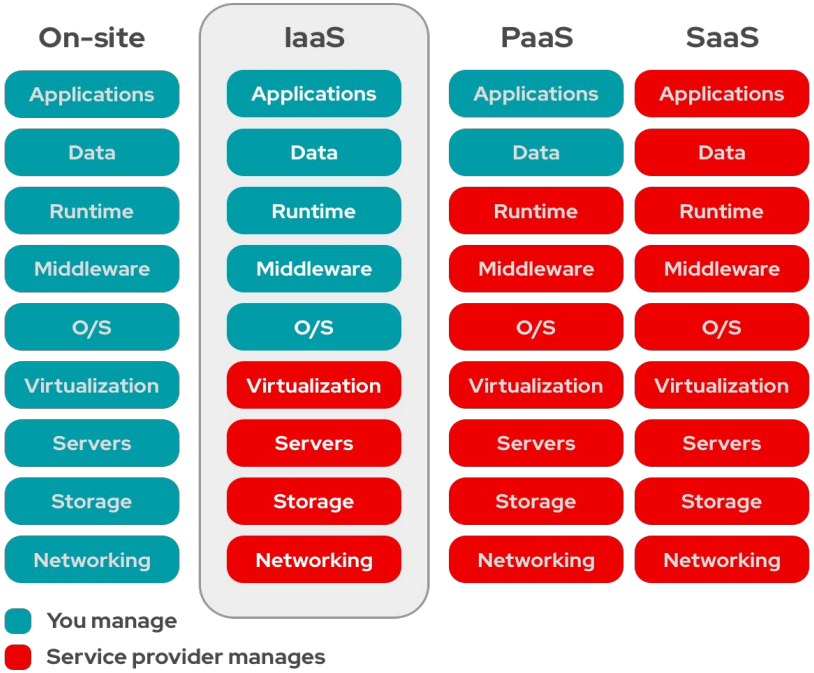


Image source: https://www.redhat.com/en/topics/cloud-computing



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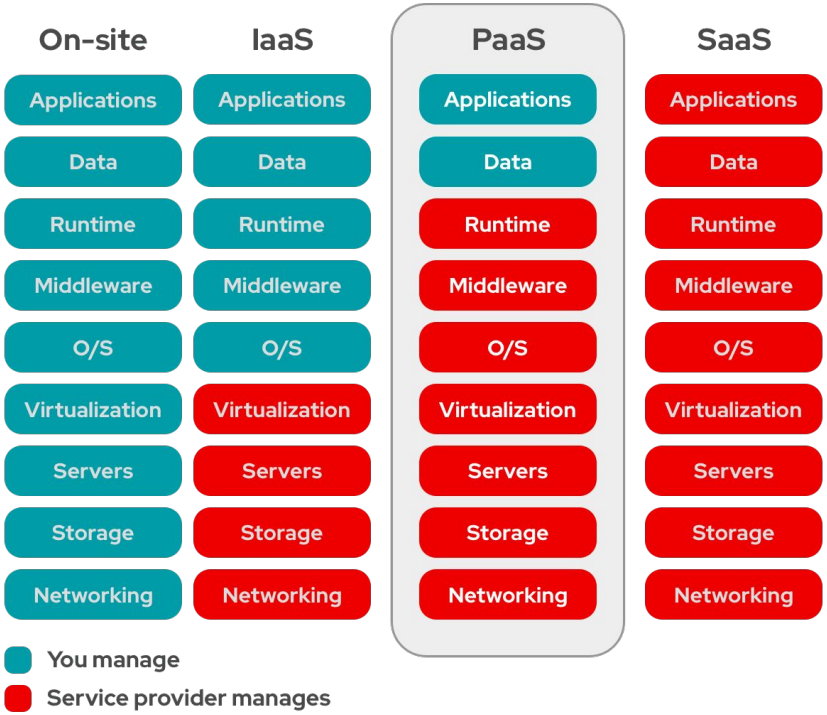
Infrastructure as a Service (IaaS)

IAAS - Infrastructure as a service

Infrastructure as a Service (IaaS) contains the basic building blocks for cloud IT and typically provides access to networking features, computers (virtual or on dedicated hardware), and data storage space. IaaS provides you with the highest level of flexibility and management control over your IT resources.

Examples



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Platform as a Service (PaaS)

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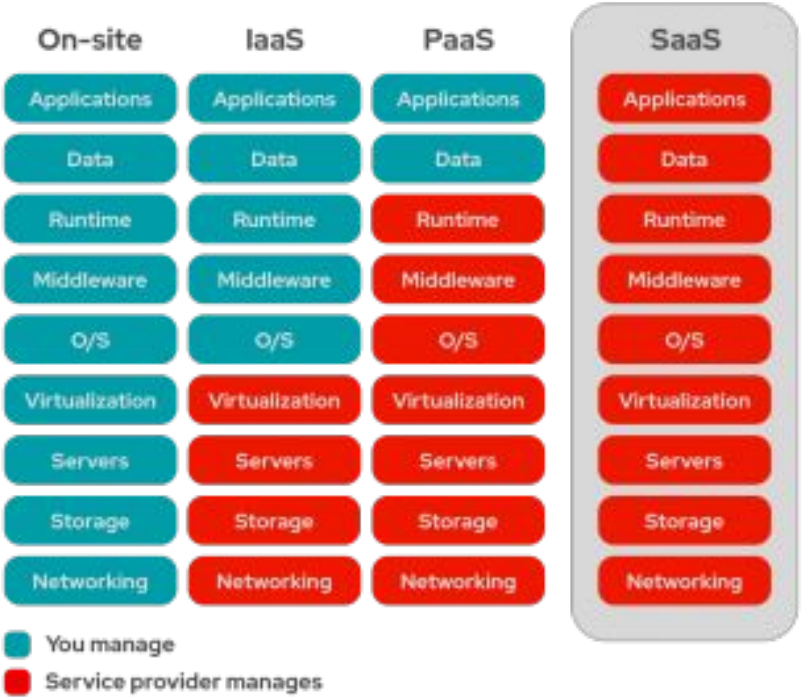

Image source: https://www.redhat.com/en/topics/cloud-computing

Software as a Service (SaaS)

SAAS - Software as a service

Software as a Service (SaaS) provides you with a completed product that is run and managed by the service provider. In most cases, people referring to Software as a Service are referring to end-user applications. With a SaaS offering you do not have to think about how the service is maintained or how the underlying infrastructure is managed; you only need to think about how you will use that particular piece of software.

Examples

Let’s have little Hands on Experience ..

We have two option for Cloud demonstration

Amazon Web Services [AWS]

Google Cloud Platform [GCP]