



# Intro To Cloud Computing

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# The Simple Definition



- The term “Cloud” is used to hide unnecessary detail
  - Your data, software or servers are running elsewhere
- On-demand – you can start a server easily in minutes
- You can upsize your server(s) as needed
- Pay by the hour



# Before the Cloud



Companies would have servers in their own data center

Then, companies would locate some of their servers in an off-site data center at Cincinnati Bell or Peak10

Data Center	Relation	Address	City
CBTS Mason Data Center	Owner	784 Forrest Hill St.	Mason
CBTS Lombard Data Center	Owner	564 Winter Lane	Lombard
CBTS Cincinnati Data Center	Owner	1 Main St.	Cincinnati
CBTS Florence Data Center	Owner	987 Central Blvd.	Florence
CBTS Gold Coast Data Center	Owner	55 Miners Way	Blue Ash
CBTS Hamilton Data Center	Owner	123 Pine St	Hamilton



# Cloud Examples

**NETFLIX**



snapchat



Dropbox



OneDrive



Instagram



twitter



Google  
Drive



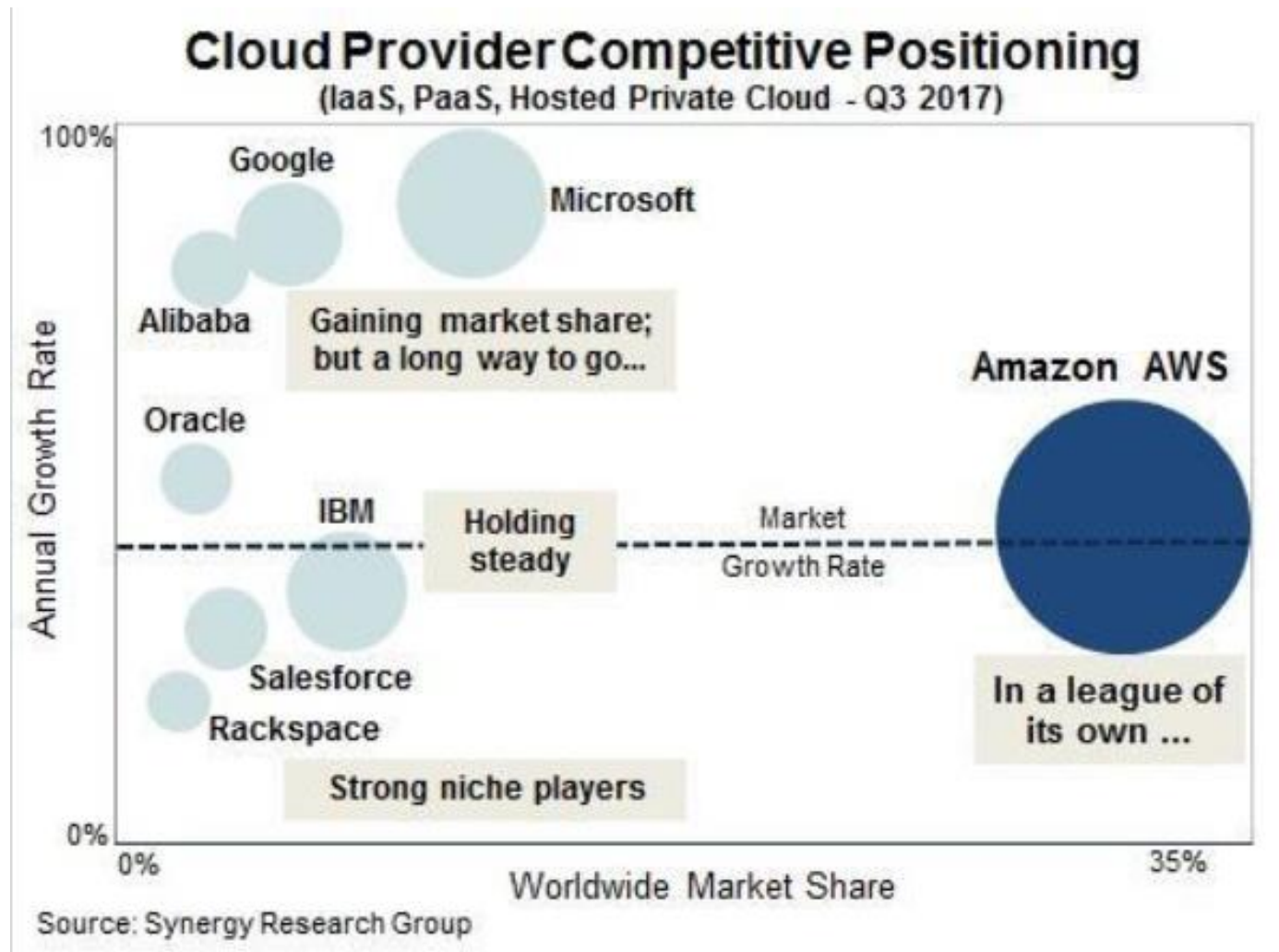
# What Can You Do in the Cloud?

- Experiment
- Web site
- Programming
- Database
- Internet of Things (IoT)





# Cloud market share



# Cloud revenue

Cloud vendor	Annual revenue run rate
Microsoft commercial cloud	\$21.2 billion
Amazon Web Services	\$20.4 billion
IBM	\$10.3 billion
Oracle	\$6.08 billion
Google Cloud Platform/G Suite	\$4 billion
Alibaba	\$2.2 billion

<http://www.zdnet.com/article/cloud-providers-ranking-2018-how-aws-microsoft-google-cloud-platform-ibm-cloud-oracle-alibaba-stack/>





# Amazon's Cloud

- Amazon Web Services (AWS)
- AWS has a vast array of services
- We only want to run a server in the cloud
- This is called EC2 – Elastic Compute Cloud



# Servers

- Cloud computing is designed to run server operating systems
  - Windows 2016 server
  - Linux (many flavors)
- No Windows 10, 8 or other Desktop operating systems are offered



# Terminology

- Instance – is a server, also known as a Virtual Machine (VM)
- Multi-tenant – your instance is running on a physical computer that is also running other people's instances



# Size and Scope

- Regions – geographically distributed around the world
- Zones – multiple datacenters in a Region
- Up to 80,000 physical servers per zone



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The 20ft version of Huawei's newest IDS1000A data center container

Source: Huawei

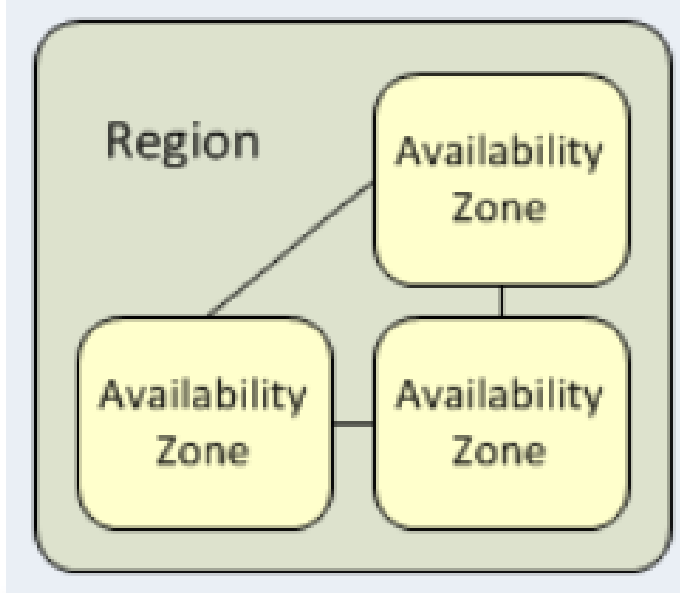


# AWS Regions, Availability Zones, Edge Locations



# Zones

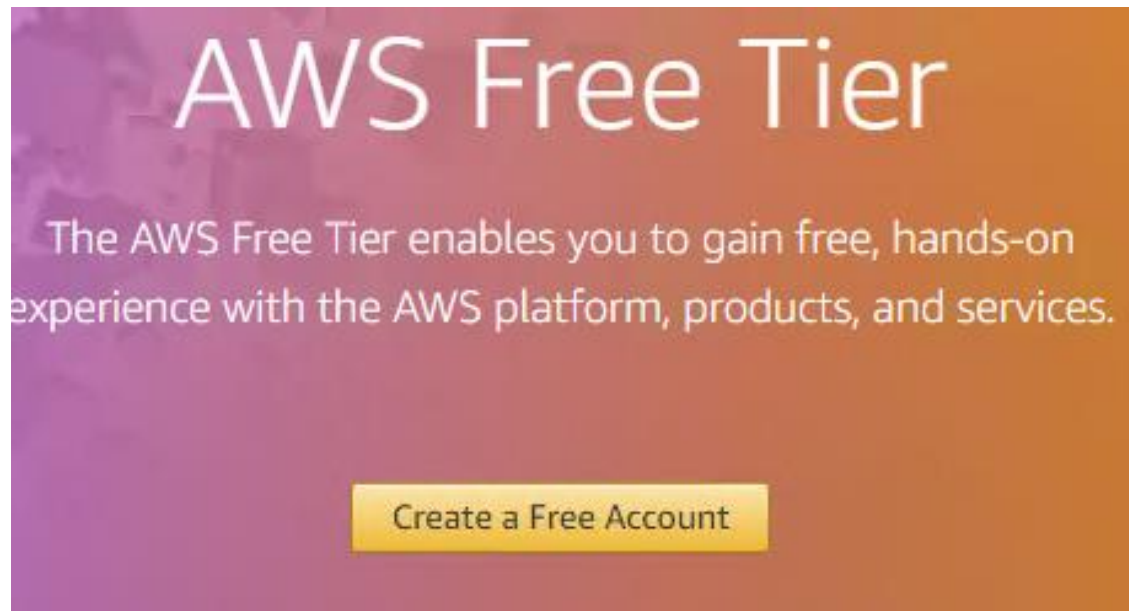
- Within each Region, there are multiple zones
- Each zone is a standalone building that is completely independent
- If a major problem occurs, the scope of that problem can be limited to that single zone





# Account Sign Up

- Amazon has a free, limited account for one year.



<https://aws.amazon.com/free/>



12 months free and always free products

AWS Free Tier includes offers that expire 12 months following sign up and others that never expire.

[Learn more »](#)

COMPUTE

## Amazon EC2

**750** Hours

per month

Resizable compute capacity in the Cloud

[Learn more about Amazon EC2 »](#)

EXPAND DETAILS ^

ANALYTICS

## Amazon QuickSight

**1** GB

of SPICE capacity

Fast, easy-to-use, cloud-powered business analytics service at 1/10th the cost of traditional BI solutions

[Learn more about Amazon QuickSight »](#)

EXPAND DETAILS ^

DATABASE

## Amazon RDS

**750** Hours

per month of db.t2.micro database usage (applicable DB engines)

Managed Relational Database Service for MySQL, PostgreSQL, MariaDB, Oracle BYOL, or SQL Server

[Learn more about Amazon RDS »](#)

STORAGE & CONTENT DELIVERY

## Amazon S3

**5** GB

of standard storage

Secure, durable, and scalable object storage infrastructure

[Learn more about Amazon S3 »](#)

COMPUTE

## AWS Lambda

**1** Million

free requests per month

Compute service that runs your code in response to events and automatically manages the compute resources

[Learn more about AWS Lambda »](#)



# Create the Account

## Create an AWS account

Email address

Password

Confirm password

AWS account name ⓘ

Continue

[Sign in to an existing AWS account](#)



# Typical Form Info

Account type 

Professional  Personal

Full name

Paul Weingartner

Phone number

513-569-1500

Country/Region

United States 



# Credit Card

- If you use only the free services, it is completely free for a year
- You do have the ability to use other cloud resources that cost money
- For this reason a credit card is required
- A test charge of \$1.00 will be made against the card, then immediately refunded



# Phone Verification

AWS will call you immediately using an automated system. When prompted, enter the 4-digit number from the AWS website on your phone keypad.

## Provide a telephone number

Please enter your information below and click the "Call Me Now" button.

Country/Region code

United States (+1) ▾

Phone number

Ext

Security Check

~~b5ag7d~~



Please type the characters as shown above

Call Me Now





# You are Ready to Go....



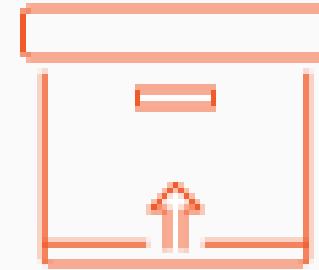
Your identity has been verified successfully.

Continue



# Support Plan

- Take the FREE plan



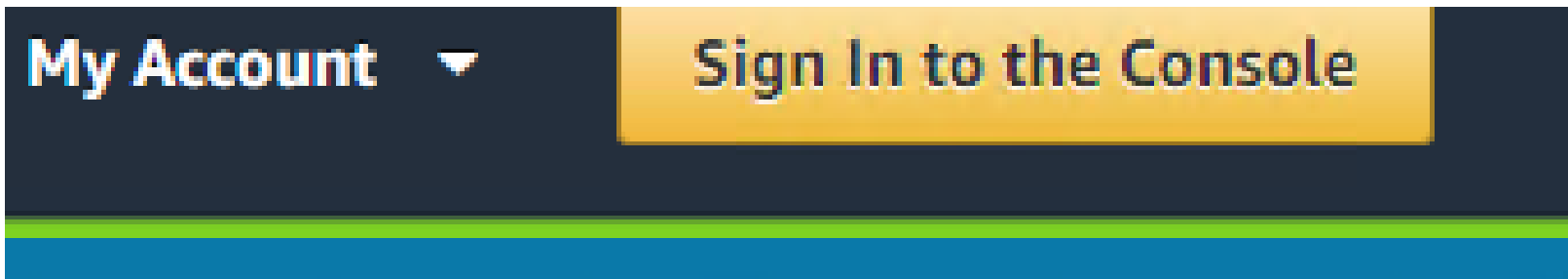
## Basic Plan

Free

- Included with all accounts



# Sign in

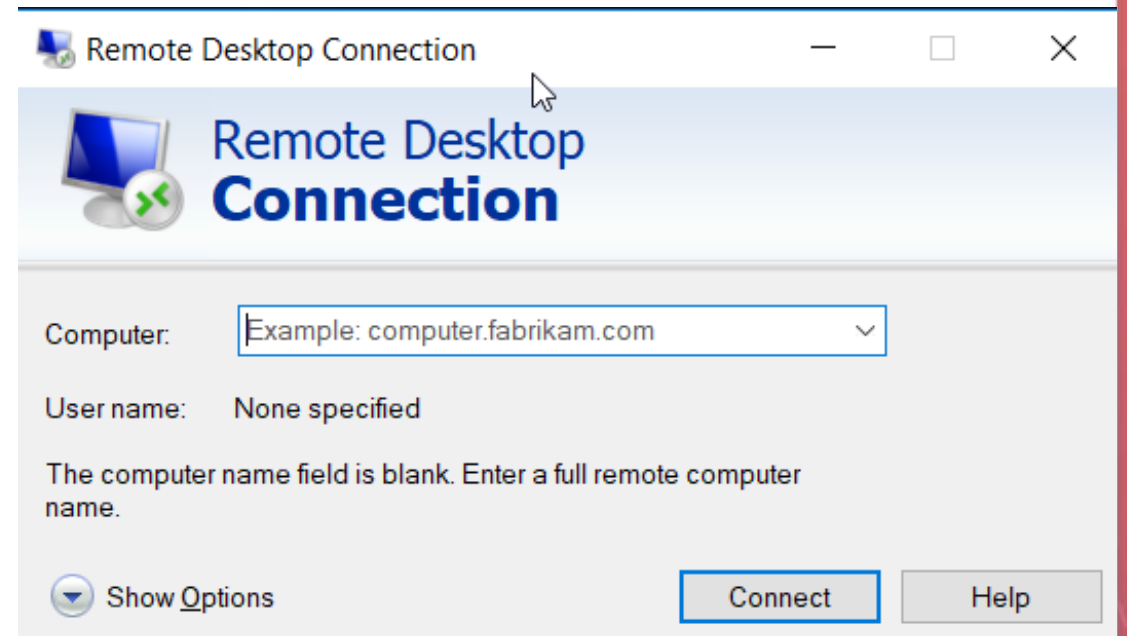


<https://aws.amazon.com>



# Connecting to your server

- Windows has a built in program, called Remote Desktop Connection
- Can also be installed on a Mac



# Remote Desktop Connection (RDC)

- Windows servers support a RDC connection
- All processing takes place on the server
- From your device, you are only sending mouse movements/clicks and keystrokes
- Pixel changes are sent back
- a modern version of a Dumb Terminal



# AWS re:Invent

Save the Date

Nov. 26 – 30, 2018 | Las Vegas, NV

Manage Your Resources

[Sign In to the Console](#)

**AWS Console Mobile App**  
View your resources on iOS and Android devices

[Download the Mobile App »](#)



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Questions?