

EDER CASELLA
TECHNOLOGY



Introduction to Cloud Computing

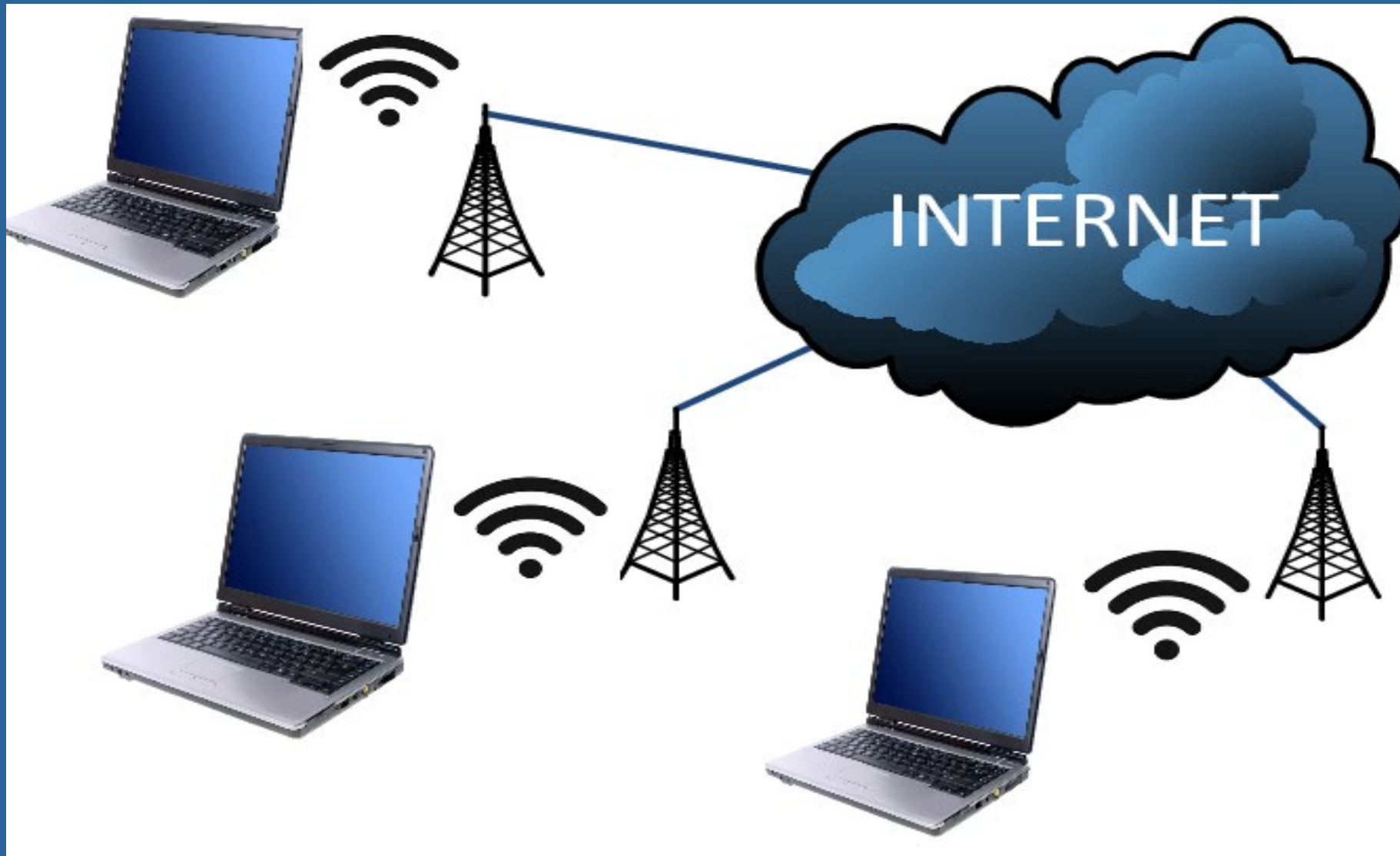


WHAT IS CLOUD COMPUTING?

Cloud computing is storing or accessing data and programs over the internet instead of accessing them directly from your computer!

The cloud really is just another way of referring to the internet

No, its not really a cloud, but rather a bunch of servers across the world





DIGITAL

TECHNOLOGY

WHAT IS NOT CLOUD COMPUTING

- Having **dedicated storage that is at your home or office network** does not count as utilizing the cloud
- Storing all your information on a **server in your office**
- Software that is **installed only to your computer**
- Watching a movie you saved to a **USB Drive or DVD**

- Do you use any **video streaming** service?
- Do you host **meetings online**?
- Do you use any **Google products**?
- Do you use **Microsoft OneDrive**?
- Do you have your **website hosted by someone else**?

AM I ALREADY USING CLOUD COMPUTING?



WHAT ARE EXAMPLES OF CLOUD COMPUTING

- **SaaS Software-as-a-Service**
 - HubSpot
 - DropBox
 - Google Workspace / Gmail
 - Office 365
- **IaaS Infrastructure-as-a-Service**
 - Rackspace
 - Amazon Web Services (AWS)
 - Google Cloud Infrastructure
 - Microsoft Azure
- **Anecdote:** The shelf (IaaS), holds the products for you to select from(SaaS)



WHAT IS SOFTWARE AS A SERVICE (SaaS)?

- A software application is hosted by a third-party provider and made **available to customers over the internet**
- Software is **not installed on your computer**, and is instead installed on a central location by the provider
- **Eliminates** the need for additional servers and storage
- Updates are generally **maintained by the provider**

ADVANTAGES OF SaaS

- **Pricing**
 - Free or ad-based
 - Flat rate
 - Per user or company license
- **Availability**
 - Available to any device with an internet connection
 - Some may offer offline mode
- **Customization**
 - Can offer company branding
 - Some can integrate with other systems, like exporting to QuickBooks



ADVANTAGES OF SaaS

- **Support**

- The provider may offer support to help users with any questions

- **Security**

- The provider is responsible for the security of both the information and physical security of the servers



WHAT IS INFRASTRUCTURE AS A SERVICE (IaaS)

- A provider gives customers **access to virtualized computing resources**, such as workstation computers, servers, storage, and networking, over the internet
- Instead of having to build and maintain their own physical infrastructure, customers can **rent these resources on-demand** and only pay for what they use
- This can be more **cost-effective and scalable** than traditional in-house IT infrastructure
- Essentially, you are renting their physical assets and behind-the-scenes systems to **provide the backbone to your computer systems**

How are IaaS and SaaS different?

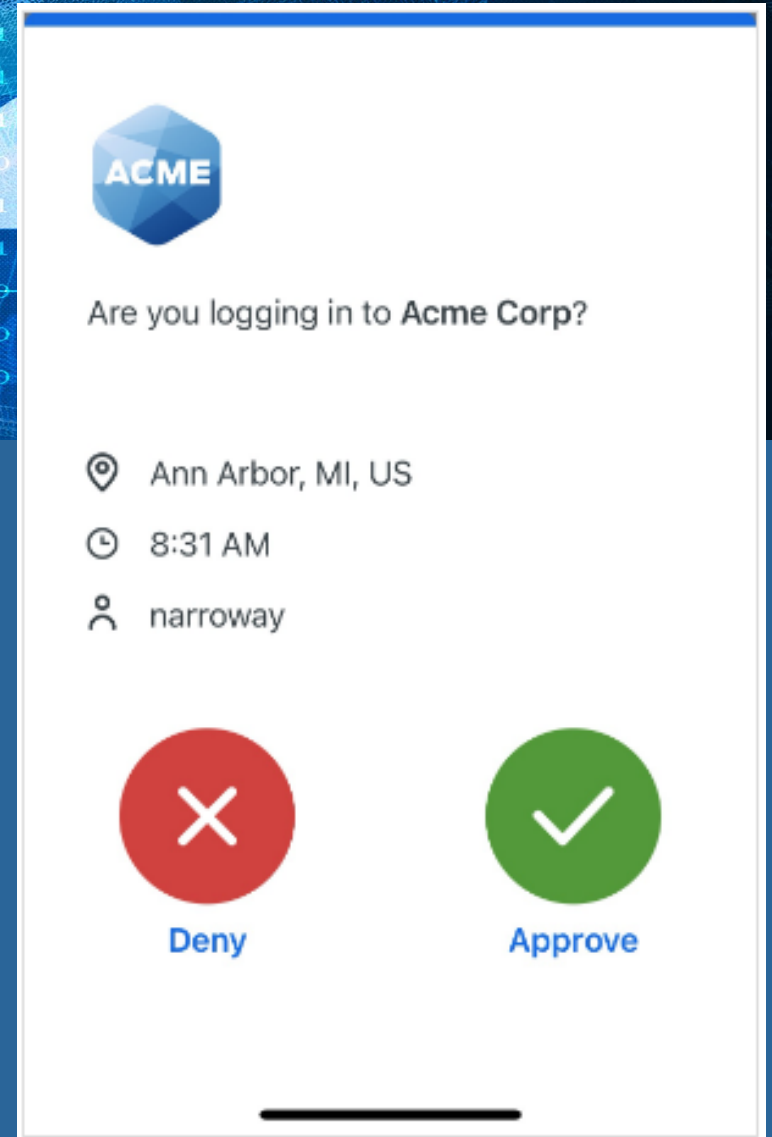
- IaaS is a piece of SaaS
- SaaS = I want it to just work, I don't need the details
- IaaS = I don't want to deal with servers and other expensive equipment, I just need a place to put my programs

Cloud Services and Security

- Generally, Cloud services are more secure than on-site resources
- Providers can spend more on security infrastructure because the cost is spread among multiple users
- Having all files and infrastructure in a central location makes it easier to secure
- Traffic is monitored more easily when in a central location
 - Think of a security checkpoint at the airport

HOW TO MAKE IT SAFER

- Enable **two-factor authentication** where possible.
 - Duo
 - Microsoft Authenticator
 - Google Authenticator
- Use **strong passwords** that contain:
 - Upper and lower case letters
 - Numbers
 - **Symbols** (@, #, \$)
- **Do not reuse passwords!**





TWO-FACTOR AUTHENTICATION

- Instead of needing access to only one device, an attacker would need **access to two devices**

Examples:

- A computer password and a phone application
 - A server password and a security card
- **Most common is:**
 - Something you know (a password, SSN, birthday)
 - Something you have (a phone, a key token)

MEASURED SERVICE

- Cloud computing resources usage is metered and **manufacturing organizations pay accordingly** for what they have used
- The cost model is based on “**pay for what you use**”—the payment is variable based on the actual consumption by the manufacturing organization
- This might also include **charges for technical support** or **special use cases**
- Some applications are free, and they do so by **collecting data** about you and selling it to advertisers





Features of Cloud Computing

Resource Pooling

01

06

Automatic System

On-Demand Self-Service

02

07

Economical

Easy Maintenance

03

08

Security

Large Network Access

04

09

Pay As You Go

Availability

05

10

Measured service

HOW CAN YOU BENEFIT FROM CLOUD SERVICES



- **Less overhead cost** buying computers and servers
- Do not need to **waste time** installing programs
- You can **access your programs** and information on any computer
- **Lower security risk**
- Programs are designed to be **easy to use**
- **Pay for what you use**, not for maximum capacity

LET'S LOOK AT SOME SPECIFIC SERVICES

- Google Workspace
- Office 365
- Squarespace
- Amazon Web Service
- Microsoft Azure

Microsoft 365



Outlook



OneDrive



Word



Excel



PowerPoint



OneNote



SharePoint



Te

MICROSOFT O365 (SaaS)

- Outlook
 - Email has a built-in shareable calendar
- Teams
 - For chatting, similar to texting
- Word, Excel, and PowerPoint
 - There is both cloud and installed versions
- OneDrive
 - Cloud storage, allows movement between computers



Gmail



Google
Calendar



Google
Drive



Google
Docs Editors



Google
Meet

Google Workspace

GOOGLE WORKSPACE (SaaS)

- **GMail**
- **Calendar**
 - Can make appointments and meetings where other staff can see (or mark private)
- **Meet**
 - Video calling and meetings
- **Google Drive**
 - Cloud storage
- **Docs, Sheets and Slides**
 - Similar to Word, Excel, and PowerPoint

SQUARE SPACE

- Website **creator** and **host** service
 - Blends IaaS and SaaS
- Gives **templates** to build a website
- Will also **host** your website for public access
- More **secure** and **less expensive** than trying to build and secure a small company website



AMAZON WEB SERVICE (IaaS)

- **Will rent server space**
 - They can run processes on what you store there
- **Data analytics**
 - Allows secure storage, categorization, and analysis of your data
- **Hosting applications**
 - Amazon will provide the server space for the public to connect to
- **Backup services**
- **Very popular with application developers**

MICROSOFT AZURE (IaaS)



- **Virtual Machines**
 - Hosted computers that could be more powerful than your own
- **Virtual Desktop**
 - A remote “computer” that would be available over the internet
- **Azure Active Directory**
 - Cloud-based identity and access management
 - Verifies who each user is, then allows access to different files based on who they are
 - Example: The boss can access financial data and any files, employees can only access their own files

QUESTIONS



T H A N K Y O U



815-344-1301

edercasellait.com