

# Cloud Computing

An introduction  
using MS Office 365,  
Google, Amazon,  
& Dropbox.



# THIS COURSE

- Will introduce the benefits and limitations of adopting cloud computing for your business.
- Will introduce and discuss 4 cloud solutions (MS Office 365, Google Cloud, Amazon and DropBox)
- Will look at the advantages of moving all your business Information Technologies (IT) to the cloud and the different costs related to cloud computing.
- Go over IT security on and off of the cloud. What you should know in today's technical world.



# What is cloud computing??



The practice of using a network of **remote servers** hosted on the Internet to store, manage, and process data, rather than a local server or a personal computer.



## Microsoft Office 365

“Run your business more easily with Office 365. Get everything you need to get work done anytime, anywhere.”



## Google Apps

“Professional email, online storage, shared calendars, video meetings and more. Built for business, designed for teams.”



## Dropbox

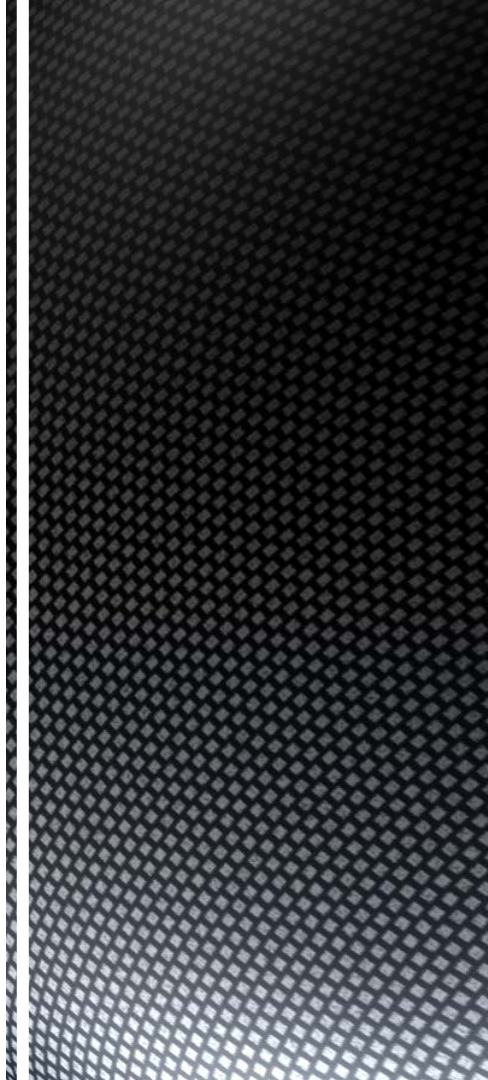
“From empowering mobile teams to making sure you never lose a file, Dropbox for Business is designed to help your team work smarter.”



## Amazon Cloud

“Amazon Web Services offers a broad set of global compute, storage, database, analytics, application, and deployment services”

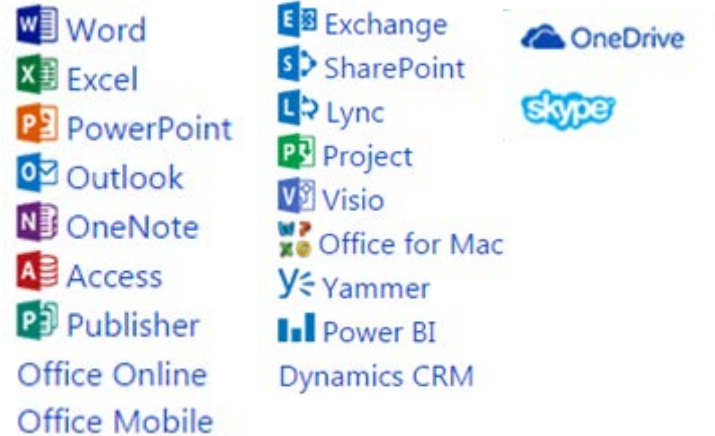




# What is Microsoft Office 365?

Microsoft Office is a set of interrelated desktop applications, servers and services, collectively referred to as an office suite, for the Microsoft Windows and Mac OS X operating systems.

List of Microsoft Applications:



# Understanding the Infrastructure

Storage Layer



Communication Layer



Application Layer



# Microsoft Azure // Cloud Size

## What is Microsoft Azure?

What is Azure? In short, it's Microsoft's cloud platform: a growing collection of integrated services—compute, storage, data, networking, and app—that help you move faster, do more, and save money. But that's just scratching the surface. Here's what else Azure is....



## It's always up, always on

You'll share the same enterprise-tested platform that powers Skype, Office 365, Bing, and Xbox. Azure offers a 99.95% availability SLA, 24x7 tech support, and round-the-clock service health monitoring. That's why more than 57% of Fortune 500 companies rely on Azure today. From live streaming Olympic events to online multiplayer online games, our customers are [doing some amazing things](#).

## It's economical and scalable

Azure can quickly scale up or down to match demand, so you only pay for what you use. Per-minute billing and a [commitment](#) to match competitor prices for popular infrastructure services like compute, storage and bandwidth means you're always getting unbeatable price for performance.



## It's everywhere

Azure runs on a growing [global network of Microsoft-managed datacenters](#) across 13 regions, giving you a wide range of options for running applications and ensuring your customers always get great performance. Azure is the first multinational cloud provider in mainland China and is continuing to expand to new regions around the globe.

# Security

**“At the service level, Office 365 uses the defense-in-depth approach to provide physical, logical, and data layers of security features and operational best practices. In addition, Office 365 gives you enterprise-grade, user and admin controls to further secure your environment”**

<https://products.office.com/en-us/business/office-365-trust-center-cloud-computing-security?tab=2>

## Physical security

- 24-hour monitoring of data centers.
- Multi-factor authentication, including biometric scanning for data center access.
- Internal data center network is segregated from the external network.
- Role separation renders location of specific customer data unintelligible to the personnel that have physical access.
- Faulty drives and hardware are demagnetized and destroyed.

## Logical Security

- Lock box processes for strictly supervised escalation process greatly limits human access to your data.
- Servers run only processes on whitelist, minimizing risk from malicious code.
- Dedicated threat management teams proactively anticipate, prevent and mitigate malicious access.
- Port scanning, perimeter vulnerability scanning, and intrusion detection prevent or detect any malicious access.

## Data security

- Encryption at rest protects your data on our servers.
- Encryption in transit with SSL/TLS protects your data transmitted between you and Microsoft.
- Threat management, security monitoring, and file/data integrity prevents or detects any tampering of data.



# Cost



Chat with a Microsoft Office 365 Specialist

**Microsoft:** Welcome to Microsoft!

**Microsoft:** I can assist you with your questions about Office 365

Chat now

[No thanks](#)

Looking for Enterprise plans?

[See more plans & pricing](#)

[See options for home](#)

Includes full Office desktop!

Includes full Office desktop!

Office 365  
Business Essentials

Office 365  
Business

Office 365  
Business Premium

[Learn more](#)

[Learn more](#)

[Learn more](#)

\$5.00 user/month  
annual commitment

\$8.25 user/month  
annual commitment

\$12.50 user/month  
annual commitment

1 year \$5.00 user/month

1 year \$8.25 user/month

1 year \$12.50 user/month

Buy now

Buy now

Buy now

Pricing may vary referred to Microsoft website for the latest pricing

# Admin Policies and User Controls



- Rights Management Services prevents file-level access without the right user credentials.
- Multi-factor authentication protects access to the service with a second factor such as phone.
- S/MIME provides secure certificate-based email access.
- Office 365 Message Encryption allows you to send encrypted email to anyone.
- Data loss prevention prevents sensitive data from leaking either inside or outside the organization.
- Data loss prevention can be combined with Rights Management and Office 365 Message Encryption to give greater controls to your admins to apply appropriate policies to protect sensitive data.

# Tour the Interface..

- <http://products.office.com/en-US/business/explore-office-365-for-business>



## Your go-to Office—anywhere

Whether you're working in your office or on the go, you get a familiar, top-of-the-line set of productivity tools. **Office applications**—always the latest versions—let you create, edit, and share from your PC/Mac or your **iOS, Android, or Windows device** with anyone in real time.



### Right on the money

There's no upfront cost for software and it always stays up to date.

[Learn more](#) ➔



### Built-in security

Built-in security plus compliance and privacy controls help keep your data safe.

[Learn more](#) ➔



### Always at the ready

You'll always have a 99.9% uptime financially backed guarantee.

[Learn more](#) ➔



Google™ Apps



# What are Google Apps?

Google Apps is an all in one cloud service that allows you to create spreadsheets, save important files, create a simple website, and much more.



Professional email  
and more

Get custom email (@yourcompany.com),  
24/7 support, 30GB of storage, and more.



Freedom to work  
from anywhere

Create, edit and share files on the go from  
your phone, laptop or tablet.



Business-grade  
security and controls

Manage your company's devices and data  
with tools that provide the control you need.

## Communicate



The communication interface of Google Apps provides your business with all the tools to keep track of exchange and calendar events, host virtual audio and visual meeting with “Hangouts” and business social media with “Google+”

## Collaborate



Using Google’s collaboration apps you can work together on projects from anywhere as long as there is Wi-Fi.

## Manage



Under the manage applications you will be able to set user controls and security restrictions to protect your business. The vault is where you will store all archived data.

## Store



Drive



Google Drive is the storage center for all of your data and communication. From here you can sync and share with anyone, anywhere.

# Security

- Encryption.
- Single Sign-On (SSO). SSO can be used to force users to update their passwords for Google Apps every month.
- Two-factor authentication.
- Google Apps Administrators can easily monitor their users. This includes an overview of accounts, usage and provisioning as well as audit logs to see who has accessed and edited docs in your domain.



# Plan Options for Google Apps

## Google Apps for Work includes: (Plan 1)

- Business email addresses (name@yourcompany.com)
- Video and voice calls
- Integrated online calendars
- 30 GB of online storage for file syncing and sharing
- Online text documents, spreadsheets and slides
- Easy to create project sites
- Security and admin controls
- 24/7 phone and email support

## Everything in Google Apps for Work Plus: (Plan 2)

- Unlimited Storage (or 1TB per user if fewer than 5 users)
- Advanced admin controls for Drive
- Audit and reporting insights for Drive content and sharing
- Google Vault for eDiscovery covering email, chats, docs and files
- Easily search and export to different formats
- Archive all emails sent by your company
- Set message retention policies
- Place and enforce litigation holds on inboxes

# COST:

## (Plan 1)

Google Apps

\$5

per user per month

or \$50 per user per year plus tax

## (Plan 2)

Google Apps  
with unlimited storage and Vault

\$10

per user per month

or \$120 per user per year plus tax

# Tour the Interface.

- <http://learn.googleapps.com/gmail-interactive-interface>

Google

Most visited

Apps



Chrome We...



Docs



Gmail



Google Drive



Google Sea...



YouTube



**amazon**  
**web services™**

# Understanding AWS



## Compute



## Storage & Content Delivery



## Databases



## Networking



## Administration & Security

Virtual Servers

Containers

Event-driven Compute Functions

Auto Scaling

Load Balancing

Object Storage

Block Storage

Archive Storage

CDN

Relational

NoSQL

Caching

Virtual Private Cloud

Direct Connections

DNS

Identity Management

Access Control

Usage & Resource Auditing

Key Storage & Management

Monitoring & Logs

Service Catalog

# Compliance Ready Solutions

## AWS Assurance Programs

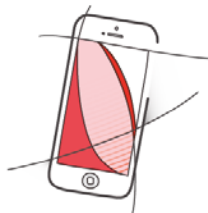
PCI DSS Level 1	▼	HIPAA	▼
SOC 1/ ISAE 3402	▼	FedRAMP (SM)	▼
SOC 2	▼	DoD CSM Levels 1-2, 3-5	▼
SOC 3	▼	DIACAP and FISMA	▼
ISO 9001	▼	ISO 27001	▼
IRAP (Australia)	▼	MTCS Tier 3 Certification	▼
FIPS 140-2	▼	ITAR	▼
CJIS	▼	MPAA	▼
CSA	▼	G-Cloud	▼
FERPA	▼	Section 508 / VPAT	▼

# AWS Possibilities

AWS provides a host of cloud computing tools and technology.

- Website Hosting
- Backup and Recovery
- Archiving
- Database Hosting
- Digital Marketing
- E-Commerce
- Application Hosting
- Mobile Services
- Content Delivery
- Video Streaming
- Gaming
- Analytics
- DNS

Mobile Services



Digital Marketing



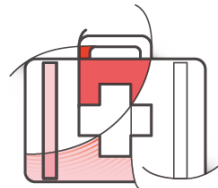
Gaming



Business Applications



Disaster Recovery



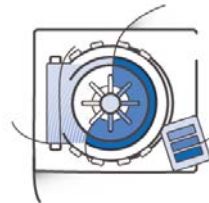
Databases



Development and Test



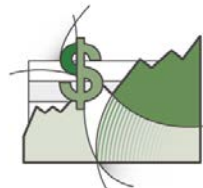
Backup and Recovery



Application Hosting



E-Commerce



Archiving



Content Delivery



Websites



# Design your own Architecture with AWS

## AWS Architecture Center

The AWS Architecture Center is designed to provide you with the necessary guidance and best practices to build highly scalable and reliable applications in the AWS Cloud. These resources will help you understand the AWS platform, its services and features, and will provide architectural guidance for design and implementation of systems that run on the AWS infrastructure.

## AWS Reference Architectures

The flexibility of AWS allows you to design your application architectures the way you like. AWS Reference Architecture Datasheets provide you with the architectural guidance you need in order to build an application that takes full advantage of the AWS cloud. Each datasheet includes a visual representation of the architecture and basic description of how each service is used.

[http://aws.amazon.com/architecture/?nc1=f\\_cc](http://aws.amazon.com/architecture/?nc1=f_cc)

# Security

AWS security is known as being one of the industry's best.

## World-Class Protection

With the AWS cloud, not only are infrastructure headaches removed, but so are many of the security issues that come with them. AWS's world-class, highly secure data centers utilize state-of-the-art electronic surveillance and multi-factor access control systems. Data centers are staffed 24x7 by trained security guards, and access is authorized strictly on a least privileged basis. Environmental systems are designed to minimize the impact of disruptions to operations. And multiple geographic regions and Availability Zones allow you to remain resilient in the face of most failure modes, including natural disasters or system failures.

Security + Speed = Happy Customers



# Cost

Amazon Web Services has a “Free Tier” for customers to get started in the cloud without committing to pay for it right away.

For plans and pricing you will have to figure out a plan with Amazon sales.



## Amazon EC2

Resizable compute capacity in the Cloud.

[Learn More »](#)

**750 hours** per month of Linux, RHEL, or SLES t2.micro instance usage

**750 hours** per month of Windows t2.micro instance usage



## Amazon S3

Highly scalable, reliable, and low-latency data storage infrastructure.

[Learn More »](#)

**5 GB** of Standard Storage

**20,000 Get Requests**

**2,000 Put Requests**



## AWS Lambda

**New AWS Free Tier Offer**

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

[Learn More »](#)

**1,000,000** free requests per month

**Up to 3.2 million seconds** of compute time per month



## AWS Key Management Service

**New AWS Free Tier Offer**

AWS Key Management Service is a managed service that provides easy encryption with administrative controls.

[Learn More »](#)

**20,000** free requests per month



## Amazon DynamoDB

Fully managed NoSQL database service with seamless scalability.

[Learn More »](#)

**100 MB** of Storage

**5 Units** of Write Capacity

**10 Units** of Read Capacity

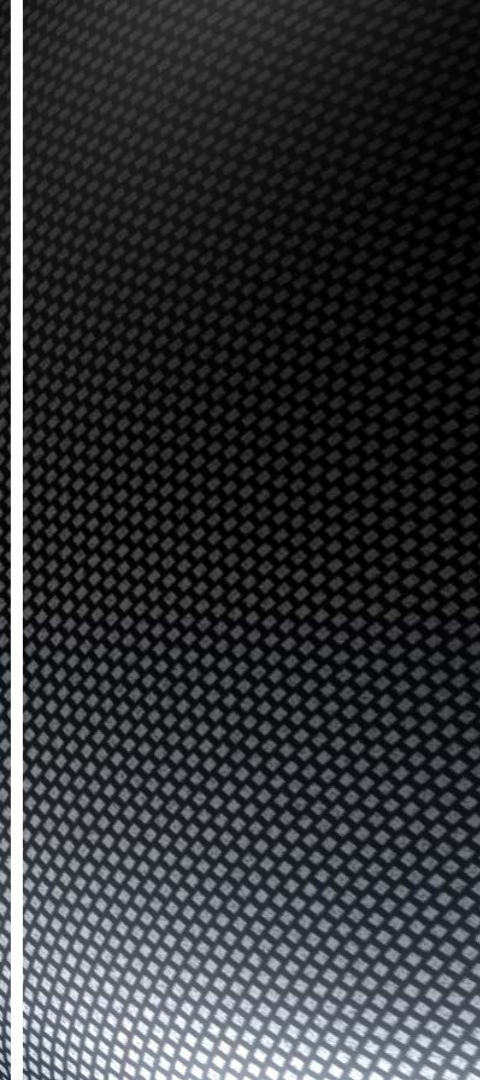
# Tour the Interface

- <http://aws.amazon.com/>





**Dropbox**

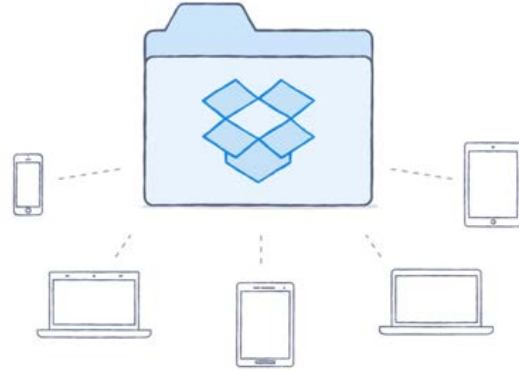


# What is Dropbox?

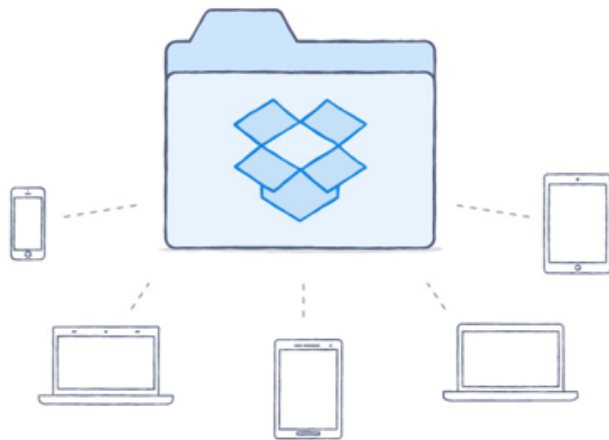
Cloud storage that can be accessed from any of your devices. Upload files and folders and your team will immediately be able to access them. Or just use it for your own, personal storage.



Your stuff, anywhere



“Dropbox is a free service that lets you bring your photos, docs, and videos anywhere and share them easily. Never email yourself a file again!”



## Any app. Any device. Anywhere

Dropbox for Business works with all the apps your team already uses to be productive — everything from Word and Excel to Photoshop and Acrobat. Plus support for Windows, Android, iOS, Mac, and Linux mean no one's left out in the cold. Just create a folder, share it, and start collaborating instantly.



Any app, any format



Desktop, mobile, web



Simplified sharing



# Security

## **What does Dropbox do to protect my stuff?**

We store your file data using 256-bit AES encryption and use an SSL/TLS secure tunnel to transfer files between you and us. You can securely access files and folders any time from our desktop, web, and mobile applications, or through third-party apps

## **How does Dropbox protect my privacy?**

Guarding our users' privacy is something we take very seriously. We work hard to protect your information from unauthorized access and have designed policies and controls to safeguard the collection, use, and disclosure of your information.

## **What can I do to protect my account?**

Use a strong password that you don't use for any other service and enable two-step verification to add an extra layer of protection. Monitor and control your account by reviewing your account activity and keeping your security settings updated.

# Price Business

\$15

user / month  
starting with 5 users

Try it free



As much space as needed



Audits of user activity & sharing



256-bit AES & SSL encryption



Remote wipe & account transfer



Unlimited file recovery & version history



SSO & Active Directory



Sharing controls



Priority email & live support

# Tour the Interface

<https://www.dropbox.com/business>



# How do I choose the right technology to work for me?





- Cloud Reputation
- Cost (One-Time & Monthly)
- Security
- Locations
- Technologies
- Fault Tolerance & Compliance
- Customer Support
- History, Review talk to other User



# IT Consultation!

- The setup and migration of your existing business to any new Cloud service becomes immediately stress free by contacting an any IT professional.
- TNTMAX provides free audits of your company's IT so we can provide you with a cost estimate for a 1 time setup and migration of your business to the cloud.



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