Mankato Computer Technology

The Cloud

how to safely store and access data and programs over the internet rather than on your computer's hard drive

The Cloud

- Cloud computing services aim to make it easier to store, access, and share digital information such as photos, documents, and other personal data over the internet.

- The "cloud" refers to a network of servers that are accessed over the internet to store, manage, and process data, rather than on a local server or personal computer. Essentially, the cloud is a metaphor for the internet itself.

- Cloud computing services offer various resources and capabilities on-demand, including storage, computing power, databases, networking, software, and more.

- Users can access these resources remotely via the internet, typically paying for only the services they use, which makes cloud computing cost-effective and scalable.

Easy Access to information

- Cloud storage allows people to access their files from anywhere with an internet connection, whether they're at home, traveling, or visiting family.

Backup and Security

- Cloud services often provide automatic backup, helping people safeguard their important documents and memories against loss or damage.

Simplicity

- User-friendly interfaces and simplified features can make it easier to navigate and utilize cloud services effectively.

Collaboration

- easily share documents and photos with family and friends, fostering better communication and collaboration, even across long distances.

Integration with Devices

- Many cloud services seamlessly integrate with various devices, including smartphones, tablets, and computers, making it convenient to access their data across different platforms.

Tech Support and assistance

- Some cloud services offer customer support, providing assistance and guidance as needed.

How to use the Cloud Safely

- Storing and accessing data and programs over the internet, rather than on your computer's hard drive, involves utilizing cloud computing services

Choose a Secure Cloud Service Provider

- Opt for reputable cloud service providers like
- Google,
- Microsoft,
- Dropbox.
- Apple Icloud
- These companies invest heavily in security measures to protect your data.

Google

- Google Cloud Storage is a cloud storage service provided by Google Cloud Platform (GCP). It allows users to store and retrieve data in the cloud with high durability, availability, and scalability.

- Google Cloud Storage offers various storage classes optimized for different use cases, along with features for data management, security, and integration with other Google Cloud services. Here's an overview of Google Cloud Storage:

Features

- **Object Versioning**: Google Cloud Storage automatically creates a new version of an object each time it's overwritten or deleted, allowing you to recover previous versions if needed.
- **Object Lifecycle Management**: Allows you to define rules to automatically transition objects between storage classes or delete them when they reach a certain age.
- **Access Control**: Provides fine-grained access control using Identity and Access Management (IAM) policies, allowing you to manage who can access your data and what actions they can perform.
- **Encryption**: Supports server-side encryption to encrypt data at rest using either Google-managed keys or customer-supplied keys.
- **Integration**: Integrates seamlessly with other Google Cloud services like BigQuery, Compute Engine, and Kubernetes Engine, as well as third-party tools and services.
- **Global Availability**: Google Cloud Storage offers a global network of storage locations, allowing you to store data close to your users for lower latency and better performance.

Microsoft Cloud

- Microsoft's suite of cloud computing services, which are offered under the umbrella of Microsoft Azure. Azure is a comprehensive cloud platform that provides a wide range of services

- **Microsoft 365**: Formerly known as Office 365, Microsoft 365 is a suite of productivity tools and cloud-based services that includes applications like Microsoft Office (Word, Excel, PowerPoint), Exchange Online, SharePoint Online, Teams, and more. Microsoft 365 enables users to work and collaborate from anywhere with internet access.

Dropbox

- Dropbox is a popular cloud storage service that allows users to store, synchronize, and share files and folders across multiple devices
- File Syncing and Storage
- Cross Platform Capability
- File Sharing and Collaboration
- File Versioning and Recovery
- Security and Encryption
- Integration with 3rd party apps
- Cloud Backup and Sync

Apple

- Apple iCloud is a cloud-based storage and computing service provided by Apple Inc. It offers various features and functionalities designed to seamlessly integrate with Apple devices and services, such as iPhones, iPads, Mac computers, and Apple Watches. iCloud allows users to store and sync data across their devices, access files from anywhere with an internet connection, and leverage additional services for backup, collaboration, and security.

1. **Storage and Syncing**: iCloud provides storage space in the cloud where users can store various types of data, including photos, videos, documents, music, app data, and more. This data is automatically synchronized across all of the user's Apple devices, ensuring consistency and accessibility.

2. **Backup and Restore**: iCloud offers backup functionality for iOS devices, including iPhones and iPads, allowing users to automatically back up their device settings, app data, messages, photos, and other content to the cloud. This enables users to restore their device to a previous state in case of loss, damage, or upgrade.

3. **Photos and Videos**: iCloud Photos automatically uploads and stores photos and videos from the user's devices to iCloud, making them accessible across all devices. It also offers features like Shared Albums for sharing photos and videos with others and Memories for automatically organizing and presenting photos and videos.

4. **Documents and Files**: iCloud Drive provides a file storage and synchronization service similar to other cloud storage solutions, allowing users to store, access, and organize files and documents across devices. It supports various file types and integrates with apps like Pages, Numbers, Keynote, and third-party apps that support iCloud Drive.

5. **Find My**: Find My is a feature within iCloud that helps users locate lost or misplaced Apple devices, such as iPhones, iPads, Mac computers, Apple Watches, and AirPods. It also allows users to remotely lock, erase, or play a sound on their devices for security purposes.

6. **Family Sharing**: iCloud offers Family Sharing, allowing users to share iCloud storage plans, purchases from the App Store, iTunes Store, and Apple Books, as well as subscriptions to Apple services like Apple Music and Apple TV+ with their family members.

7. **Security and Privacy**: iCloud employs robust security measures to protect user data, including encryption both in transit and at rest, two-factor authentication (2FA), and end-to-end encryption for certain services like iMessage and FaceTime. Apple emphasizes user privacy and data protection as core principles of iCloud.

- Overall, iCloud provides seamless integration with Apple devices and services, offering users a convenient and secure way to store, sync, and access their data across all of their devices.

Use Encryption

- Encrypt your data before uploading it to the cloud.
- Most cloud storage providers offer encryption features, but you can also encrypt your files using third-party encryption tools before uploading them.

Strong Passwords and Multi Factor Authentication (MFA)

- Use strong, unique passwords for your cloud accounts and enable multi-factor authentication wherever possible.

- This adds an extra layer of security by requiring a secondary form of verification, such as a code sent to your phone.

Regularly Update Software and Applications

- Keep your operating system, antivirus software, and applications up to date to patch any security vulnerabilities.

Limit Access

- Only grant access to your cloud data and programs to authorized users.

- Most cloud services offer options to control who can access your data and what they can do with it.

Monitor Account Activity

- Regularly review the activity logs provided by your cloud service provider to spot any suspicious behavior.

Backup Data

- Always keep backups of your data, either in a separate cloud service or on physical storage devices.

- This ensures that you can recover your data even if something happens to the primary storage.

Be Cautious with Public Wi Fi

- Avoid accessing sensitive data or logging into cloud accounts when connected to public Wi-Fi networks, as these connections can be insecure.

Use Secure Connections HTTPS

- Ensure that you're using secure connections (HTTPS) when accessing your cloud accounts to prevent eavesdropping and man-in-the-middle attacks.

Educate Yourself

- Stay informed about common security threats and best practices for securing your data in the cloud.

- Regularly educate yourself on how to stay safe online.

Conclusion

- Overall, cloud computing can empower you to stay connected, organized, and secure in your digital lives, enhancing your independence and quality of life.

- By following these practices, you can safely store and access your data and programs over the internet, leveraging the convenience and scalability of cloud computing while minimizing security risks.

- Overall, the cloud has revolutionized how businesses and individuals store, access, and manage data and applications, enabling greater efficiency, agility, and innovation.