

BVCC General Meeting

January 11, 2021

Cloud Storage Services

Joel Ewing, BVCC President

(presentation slides will be posted on
bvcomputerclub.org web site)

Advice on Cryptocurrency

- **Recent ads on TV & ability now to purchase Bitcoin, Ethereum, BitcoinCash, or Litecoin on PayPal suggest that cryptocurrency may now be a safe investment. The Reality is still that –**
 - **Cryptocurrency is highly speculative, much more than stocks, gold, commodity futures, etc. because it is backed by NO physical assets, uninsured, and unregulated. Its value is solely dependent on volatile perceived value and demand, and for technical reasons it does not scale well, which will limit its use. See Bits & Bytes article from June 2018: <https://bvcomputerclub.org/PDF/B&B//2018-06.pdf>**
 - **Even though lack of centralized control or ownership makes direct regulation almost impossible, If at some point governments decide its use for crime and fraud are unacceptable, they can regulate the conversion points between official currencies and cryptocurrencies and the value of cryptocurrencies for purchasing legitimate goods and services could disappear overnight.**

Cloud Servers

- **A generic term for servers located somewhere out in the Internet**
- **The physical location of the server(s) is generally not known and not important to the users of the service.**
- **Might be used to refer to a server at one specific physical location or a collection of servers distributed at multiple locations**

Cloud Storage Services

- **What, Why, How**

BVCS

What are Cloud Storage Services

- **A way to store files associated with your computer or mobile device at a remote location using the Internet**
 - **Free services (lower storage limits) and paid services (sometimes integrated with other service offerings)**
 - **Usually requires installation of a specific application or app to access that vendor's service.**

Why use Cloud Storage Service

- **Important files may be saved remotely as a backup copy, to share files among multiple user devices, or to share files with other people.**
- **Use together with other backup strategies – Cloud Storage Service failures or discontinuance are possible; user error or malware on your local device could also damage or delete a file in cloud storage.**

The How of Cloud Storage

- **A user account associated with the service**
- **Installing the required app and login to that account gives access to a file directory that is synchronized with your directory space on the cloud storage service**
 - **File and directory changes made to the synced directory on your local device are uploaded to your cloud storage service space**
 - **Any other devices logged into the same storage service with the same login will synchronize their view of the cloud storage with changes uploaded from other devices using that login.**
 - **Multiple devices using the same account do not have to be on concurrently when changes are made. When a new device is turned on, it will re-synchronize its local view of the cloud storage with changes made while it was turned off.**
- **All services also have a web interface for access from any device that has a web browser**

The How of Cloud Storage

- **Some cloud storage services on some device platforms allow you a choice of whether to keep a local copy of specific files on your device.**
 - **local copy means you have faster access and can edit even with no Internet access**
 - **local copies of everything means must also have space for a local copy of everything in the cloud storage.**

Cloud Storage Performance Issues

- **Changes made to and from cloud storage not instantaneous – very noticeable on large files**
 - **Most Internet Service Providers have very asymmetric residential service with upload speeds drastically slower. Cox Internet Preferred 150: 150 Mbps download, 10 Mbps upload (about 4.2 GB/hour); AT&T upload is only 3 Mbps; even Cox gigablast (940 Mbps download) is only 35 Mbps upload.**
 - **There are ISP offerings with faster uploads and even symmetric speeds, but they don't appear to be available in NWA.**

Cloud Storage Performance Issues

- **Consequences**

- **Cloud storage works best for making almost-immediate copies of large numbers of small files under 100 MB where a small percentage of files change in one day or at the same time.**
- **Cloud storage is less useful for storage of very large files, like full-image backups of a hard drive: a 100 GB disk image file would take 23.8 hours to upload at 10 Mbps upload speed (and any other Internet access during that period would be painfully slow)**
- **An external USB drive even with only USB 2.0 at 480 Mbps would be a much faster choice for regular disk-image backups or backing up files larger than 5 GB.**
- **Best backup strategy: full-image backups to USB external drive every several weeks for quick full-system recovery, combined with cloud storage to insure backups of important user documents that change between full-image backups.**

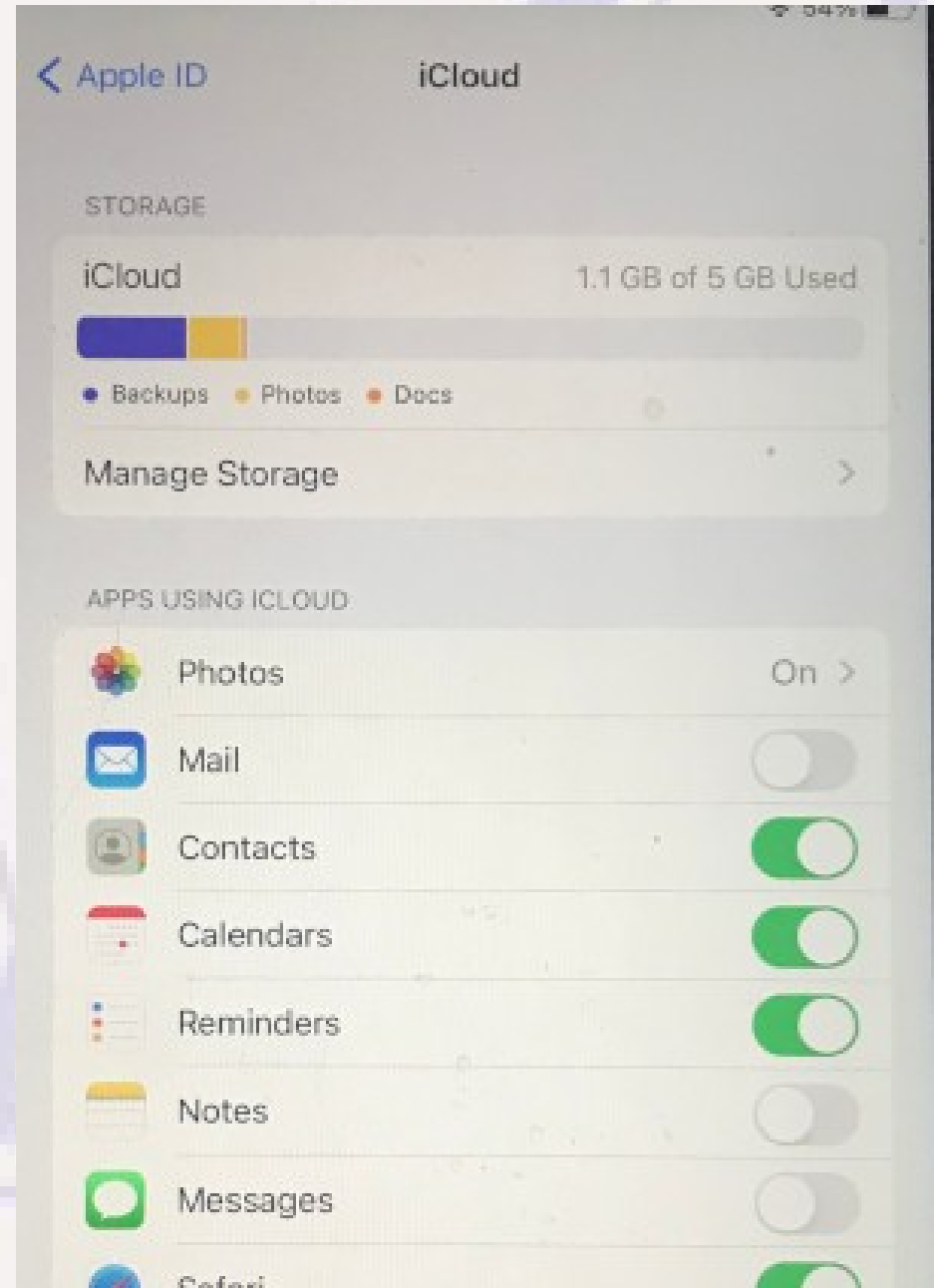
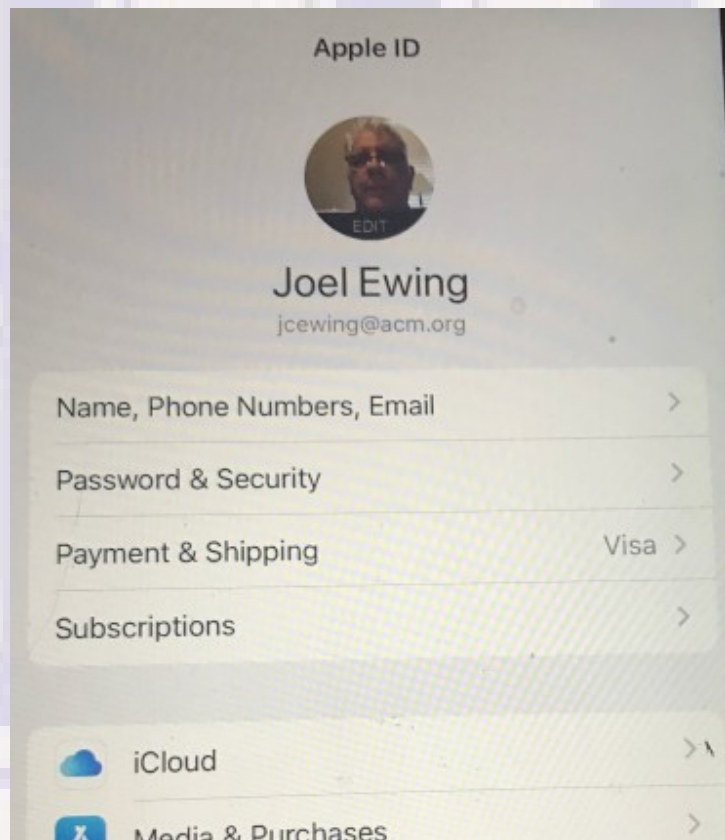
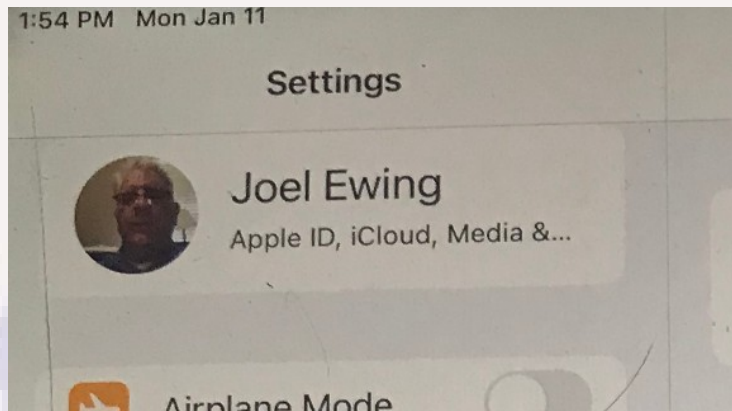
Personal Cloud Storage Services

- **Apple iCloud Drive – all owners of Apple devices**
- **Microsoft OneDrive – all W10 users with email login**
- **Dropbox**
- **iDrive**
- **Google Drive**
- **Box**
- **Nextcloud**
- **Various business oriented (higher-priced) services**

Apple iCloud Drive

- <https://www.icloud.com>
- Integrated with every Apple device. Associated with your AppleID, also iCloud for Windows; Linux support via web browser, but unofficial app from <https://snapcraft.io>
- 5 GB free, 50GB \$0.99/mo, 200GB \$2.99/mo, 2TB \$9.99/mo
- Used for auto-backup of apps, settings, etc on iPhone/iPad. From Settings → AppleID → iCloud can select which app content to backup (Photos, email, contacts, calendar, etc.) Be sure content you care about is covered
- Designed to share content across all your Apple devices. Can also share files with anyone having an AppleID – and people that don't own an Apple device can get a free AppleID on web site.

Apple iPad iCloud Settings



Microsoft OneDrive

- <https://onedrive.live.com>
- Win10 with a MS email login has an associated OneDrive cloud storage service
 - used to save other status information as well – intent is to allow user to move active work to a different device by login with same username on new device (multiple concurrent logins??). User has some control over what automatically goes to the cloud via security settings.
- OneDrive Basic 5GB free; OneDrive Standalone: 100GB \$1.99/mo; MS365 Personal: 1TB + Office apps \$6.99/mo (\$69.99/yr); MS365 Family: 1TB per person + Office, max 6 persons \$9.99/mo (\$99.99/yr)
- Can share files with other users by providing a link to the file (less secure). Edit allowed by default, but can be read-only.
- Can also set up an MS account for OneDrive that is not associated with a Win10 login.
- Personal Vault with 2FA limited to 3 files on OneDrive Basic

DropBox

- **<https://www.dropbox.com>**
- **One of the earliest free cloud storage services. Supported on Windows, Mac, Linux, apps for iOS, Android, Windows mobile, and through a web browser.**
 - **DropBox Basic: free, 2GB (max 3 devices, Mar2019); DropBox Plus: 2TB \$11.99/mo (\$119.88/yr).**
 - **Can share files with another DropBox user (they will see shared directory under their DropBox files) or provide a link (less secure)**

Google Drive

- <https://drive.google.com>
- **Use Google login. Access to Google Office web apps. Space used for Google Photos also counts. Includes web interface (Chrome, Firefox, MS Edge), client apps for mobile devices, Windows, Mac (Linux must use web browser)**
 - **15 GB free; 100GB \$1.99/mo (\$19.99/yr); 200GB, \$2.99/mo (\$29.99/yr); 2TB, \$9.99/mo (\$99.99/yr)**
 - **Change in June 2021: If inactive for 2 years in Gmail, Drive or Photos content of inactive product may be deleted! (or if you exceed your storage limit for 2 years)**

Box Drive

- **<https://www.box.com>**
 - **Individual: 10GB free, 250MB file upload limit, 1 file version**
 - **Personal Pro: 100GB \$10/mo (\$120/yr), 5GB file upload, 10 file versions**
 - **Default: local copy on device only when file is open, but can mark specific folders for offline access (local file copies) for when Internet not available**

NextCloud

- **This is not a cloud service, but an open-source software project**
 - **Provides both a NextCloud cloud storage server and client at <https://nextcloud.com> , support for Linux, Windows, Mac, mobile devices**
 - **You can find free and non-free NextCloud-based cloud storage services on the Internet. Do serious research and exercise caution before use: ANYONE can set up such a server and advertise. You only have their word that they have proper security provisions in place, or that they are following accepted practices to insure your cloud data remains available, or that they will continue to be in business next month.**
 - **If you have Linux gurus in your family, one option could be to set up your own NextCloud cloud storage server for family use.**

Business Services

- **You may find many other cloud storage services that are geared toward business use. These tend to have extra features and higher guarantees but also trend toward higher costs that make them less useful for personal use.**

Questions

BWS