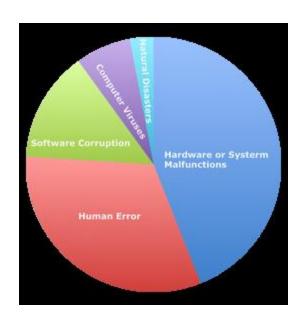
PWC Gr8 Gals@Technology

Backup!!

Make No Mistake

- You WILL lose your data!
- The only questions are When? and How?
 - Usage mistake/software
 - Failure of technology
 - Acts of Nature



Lost or stolen equipment (113/minute in US)

WHERE'S MY SMART PHONE?

Projected number of smart phones lost or stolen and never recovered in the U.S. in that calendar year.



MILLION VS.

SID



1.6 MILLION 2012

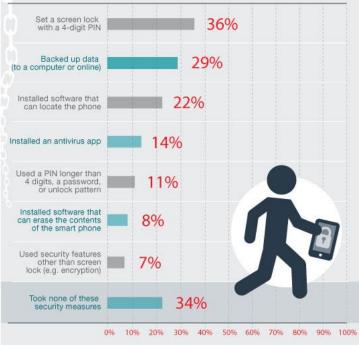
VS.

3.1 MILLION 2013

HOW SMART-PHONE USERS SECURE THEIR PHONES

Percent of owners surveyed who took each precaution.

MILLION



Results based on 2014 Annual State of the Net Survey by Consumer Reports National Research Center.

HOW PHONES ARE MOST COMMONLY STOLEN

If this happened to you, chances are you left it behind in a public place.

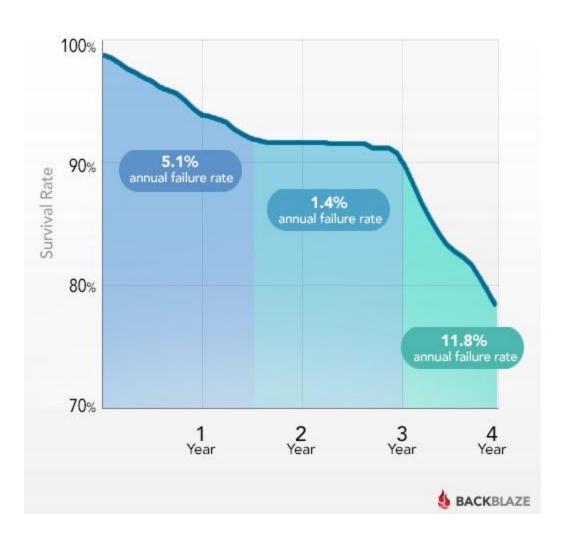






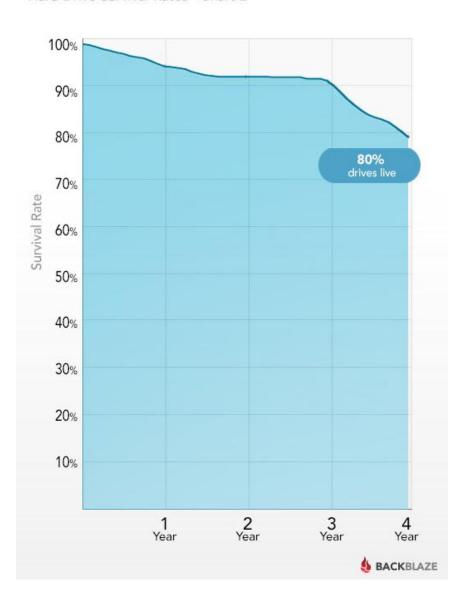
Drives Have 3 Distinct Failure Rates

Hard Drive Survival Rates - Chart 1



80% of Drives Last Four Years

Hard Drive Survival Rates - Chart 2



Things To Consider

- What to backup
 - Files and preferences (change daily)
 - Full system (periodic)

- Levels of backup
 - Onsite/Local
 - Offsite/Cloud
 - Archival

Files/Preferences

- My Documents
 - Docs, spreadsheets, projects
 - Financial information (Quicken, Money, TurboTax)
- My Photos
- My Video
- My Music
- Favorites
- Contacts

Files/Preferences

- Easy access to individual files or folders
- Generally most frequent backup
- Designed for specific retrievals
- Useful for major device change where system hardware or software will change

Full System

- Entire system software and all settings
- Also known as "image backup"
- Designed to recover from complete failures
- Period backup, less frequent
- Also useful to replace or upgrade equipment

Things To Consider

- What to backup
 - Files and preferences (change daily)
 - Full system (periodic)

- Levels of backup
 - Onsite/Local
 - Offsite/Cloud
 - Archival

Levels Of Backup

- Onsite/Local
 - USB drive with just a simple manual copy
 - Software for periodic copy or "sync"
 - Network Attached Storage (NAS)
- Offsite/Cloud
 - System-based "sync" (iCloud, OneDrive)
 - Vendors (Mozy, Carbonite, Dropbox, Amazon)
- Archival
 - Safe Deposit Box
 - Remember you may need to read it someday
 - USB currently the safest connection method

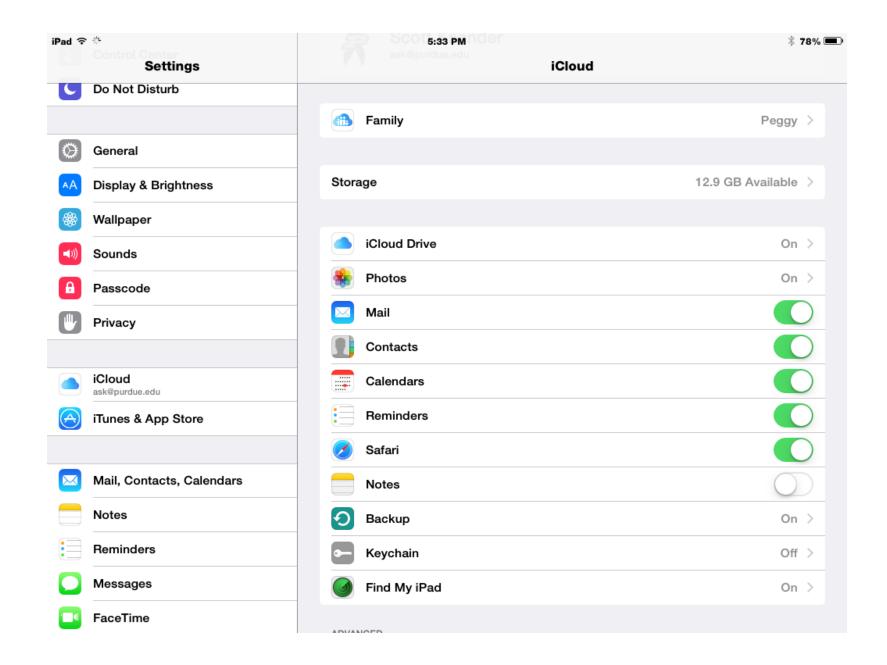
A Word About Encryption

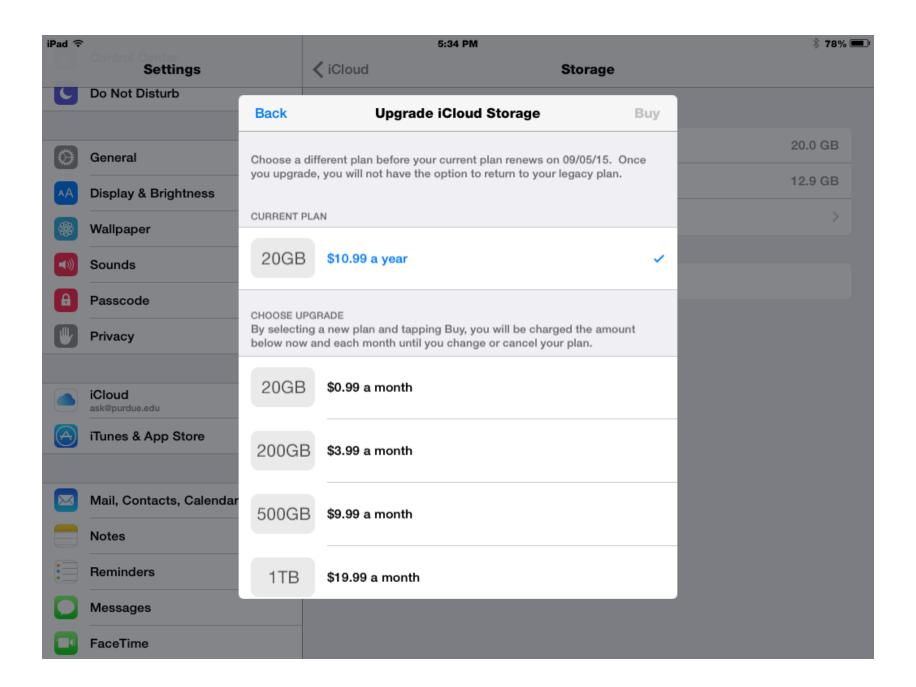
- There only 3 types of data
 - Public
 - Password protected
 - Encrypted
- Look for AES encryption
- Look for FIPS 107 AES-128 or AES-256
- Who has the key?
- Consider WinZip (PC and Mac)

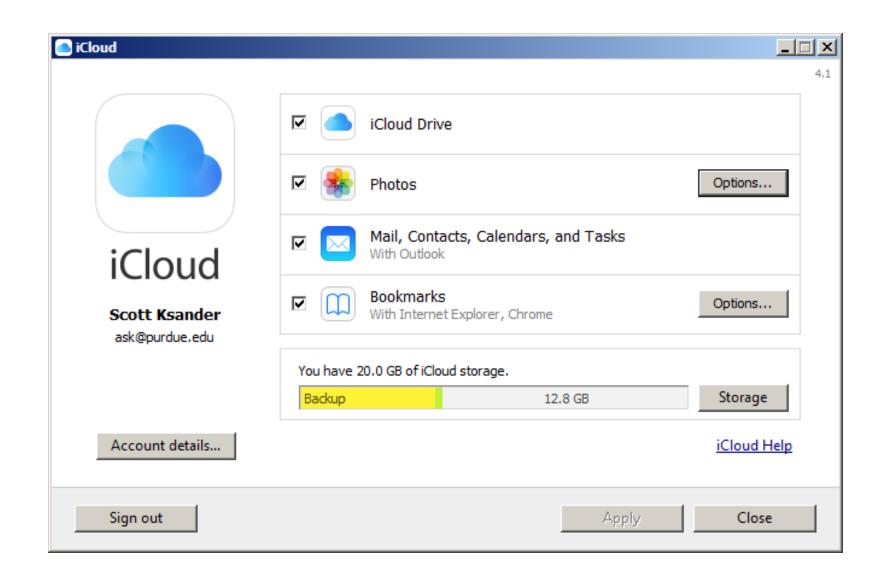
- USB Drives
 - 64GB Flash Drive \$18 (Amazon)
 - 128GB Flash Drive \$28 (Amazon)
 - 1TB External Drive \$55 (Amazon)
 - 4TB External Drive \$115 (Amazon)

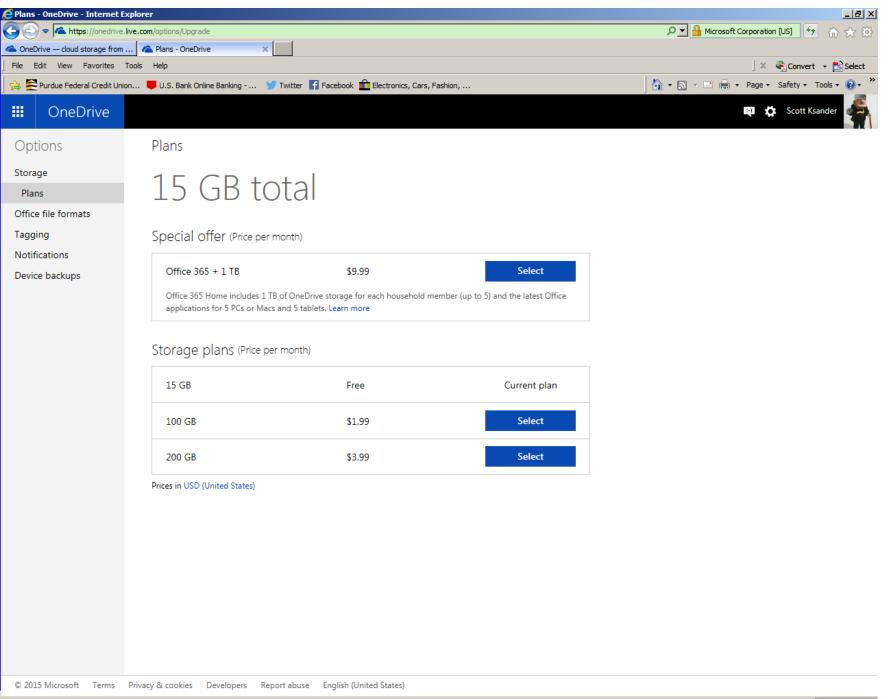
- NAS (Network Attached Storage)
 - 4TB "Personal Cloud" under \$200 (Amazon)

- iCloud and OneDrive "sync"
 - Free or very reasonable
 - Background sync based on bandwidth
 - Also provide for some controlled sharing

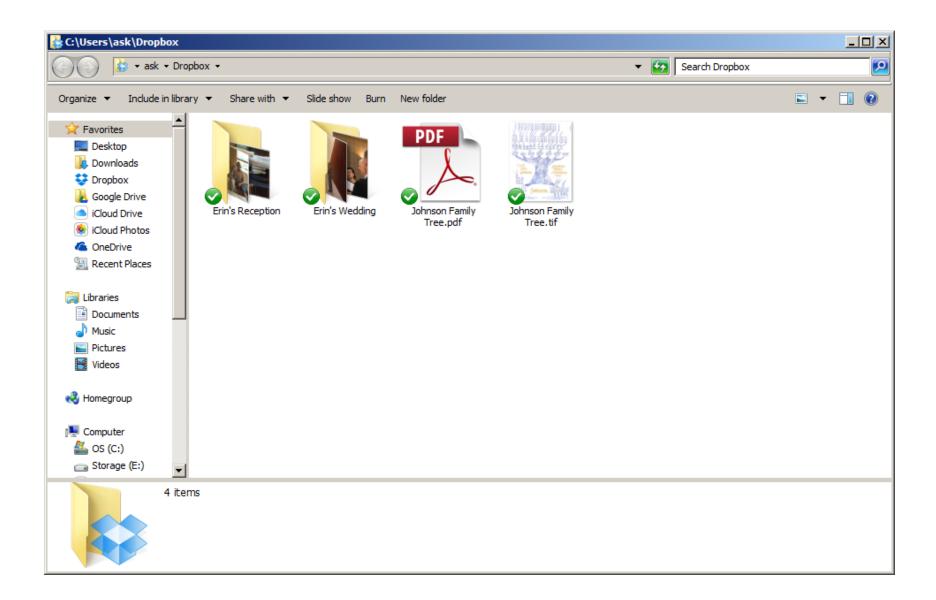


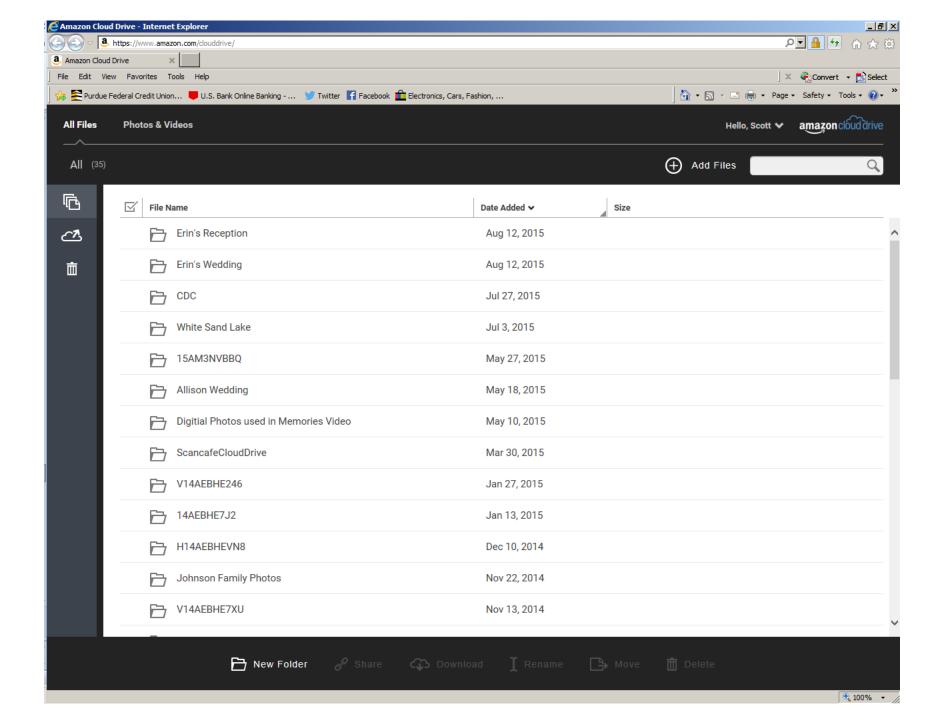


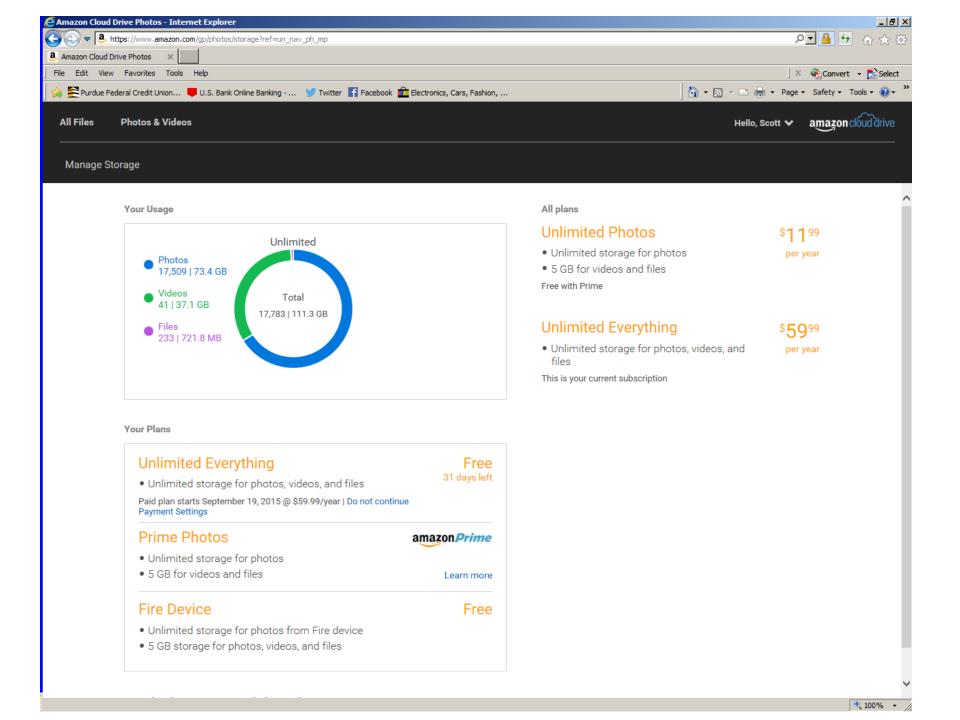


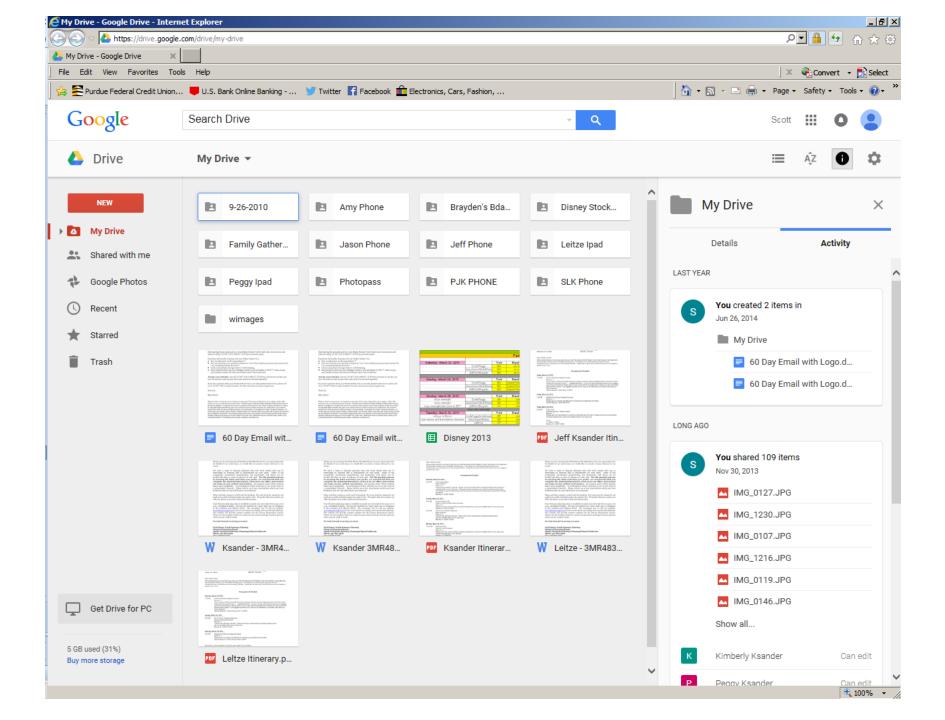


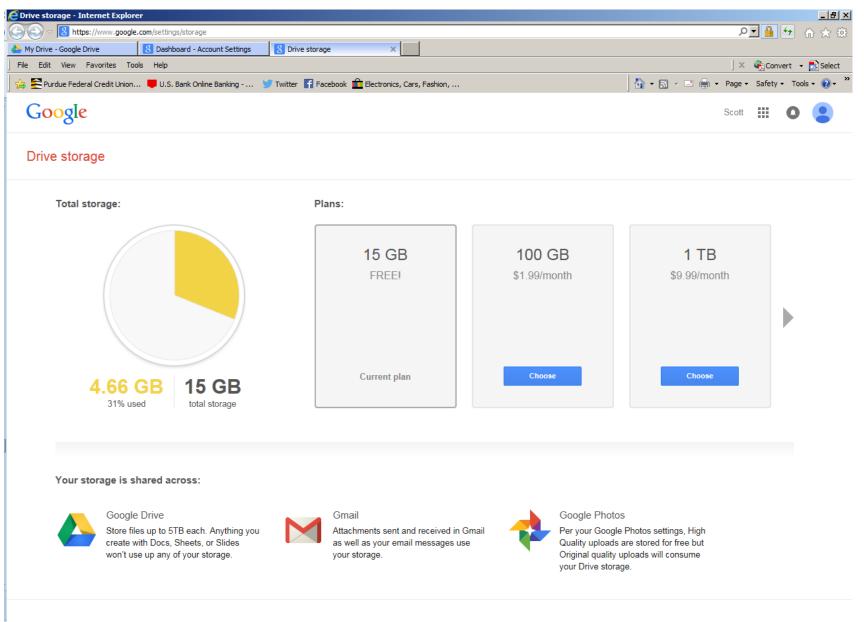
- Dropbox, Amazon, Google
 - Free or very reasonable
 - Not OS specific
 - Very much like iCloud and OneDrive









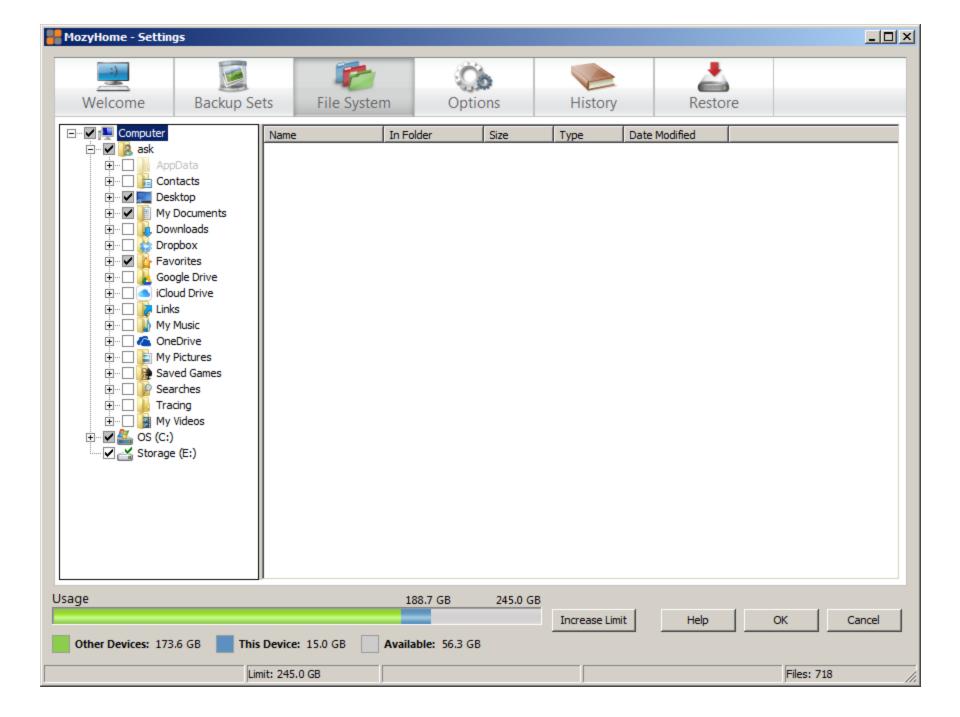


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https://www.gmail.com/mail/help/about.html

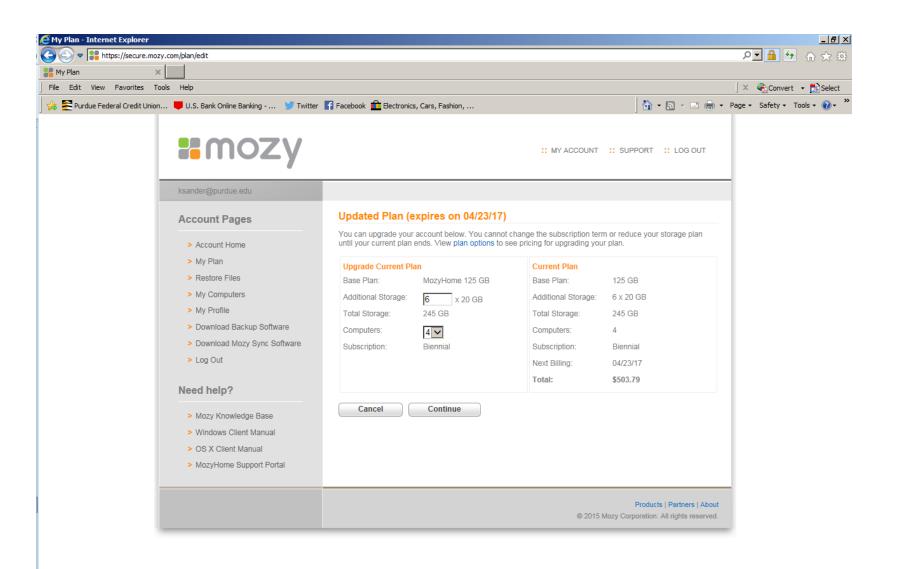
- Software with Hardware
 - WD My Book
 - Seagate Backup Plus
- Backup Vendors
 - Mozy, Carbonite
 - Software support
 - Full image options to local and cloud
 - Costs under \$1/GB/year



	MozyHome - History									X	
-	Start Time ▼	Туре	Duration	Result	Files	Size	Files Encoded	Size Encoded	Files Tran	Size Tran	
	08/20/2015 02:32 AM	Scheduled Backup	00:01:43	Success	1529	17.5 GB	10	61.7 MB	10	61.7 MB	
	08/19/2015 02:34 AM	Scheduled Backup	00:01:47	Success	1529	17.5 GB	10	66.5 MB	10	66.5 MB	
	08/18/2015 02:35 AM	Scheduled Backup	00:00:40	Success	1529	17.5 GB	7	14.7 MB	7	14.7 MB	
	08/17/2015 02:44 AM	Scheduled Backup	00:01:48	Success	1529	17.5 GB	10	64.3 MB	10	64.3 MB	
	08/16/2015 02:40 AM	Scheduled Backup	00:00:39	Success	1529	17.5 GB	7	10.8 MB	7	10.8 MB	
	08/15/2015 02:38 AM	Scheduled Backup	00:01:54	Success	1529	17.5 GB	9	69.4 MB	9	69.4 MB	
	08/14/2015 02:26 AM	Scheduled Backup	00:01:58	Success	1529	17.5 GB	10	63.9 MB	10	63.9 MB	
	08/13/2015 02:32 AM	Scheduled Backup	00:02:09	Success	1529	17.5 GB	8	61.2 MB	8	61.2 MB	
	08/12/2015 05:38 PM	Automatic Backup	00:02:44	Success	1529	17.5 GB	9	71.1 MB	9	71.1 MB	
	08/11/2015 02:25 AM	Scheduled Backup	00:02:18	Success	1529	17.5 GB	10	66.1 MB	10	66.1 MB	
	08/10/2015 02:16 AM	Scheduled Backup	00:03:28	Success	1529	17.5 GB	8	113.5 MB	8	113.5 MB	
	08/09/2015 07:39 PM	Automatic Backup	00:01:56	Success	1529	17.5 GB	8	57.6 MB	8	57.6 MB	
41											

File	Path	Patch Size	Encoding Time	Transfer Time	Transfer Rate	Other Details	

Clear History



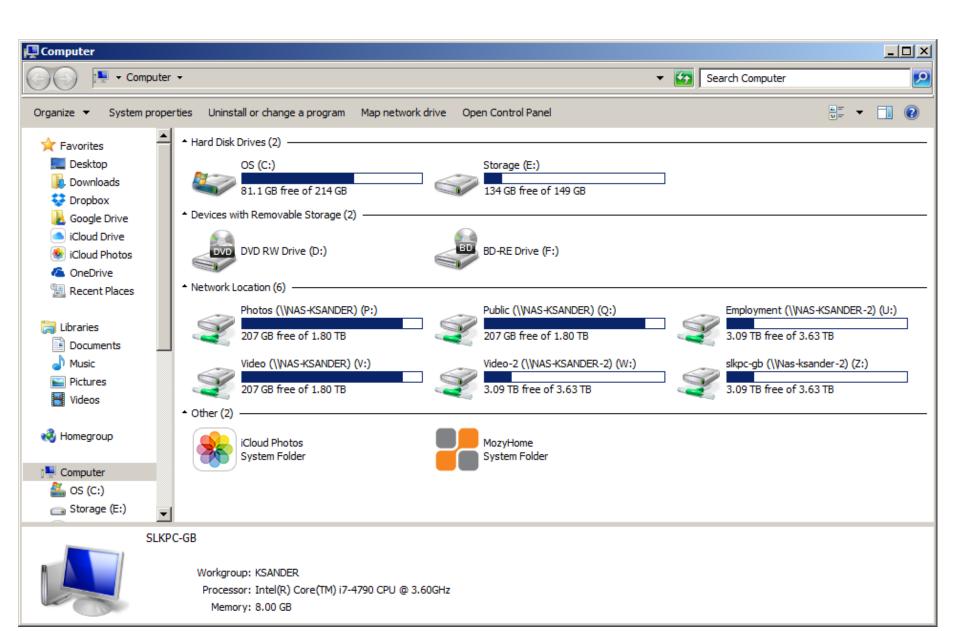
- Backup software
 - Acronis True Image \$30 (Amazon)
 - Scheduled, file, system
 - Norton/Symantec \$30 (Amazon)
 - Paragon Backup & Recovery \$40 (Amazon)

Have A Specific Strategy

- Multi-level
 - Local
 - Cloud
 - Archival
- Always understand where the "Bible Copy" resides. More places is better but can create confusion on data loss.

What Do I Do?

- iPhone/iPad
 - iCloud sync (near real time on wi-fi)
 - Amazon sync (near real time on wi-fi)
- PCs
 - Nightly files to Mozy cloud
 - Nightly files to Netgear NAS
 - Quarterly drive images to Netgear NAS
 - Drive image if major new gear or upgrade
 - Semi-Annual NAS backups to USB in Safe Deposit



Make No Mistake

The ONLY wrong answer is to do nothing!!

