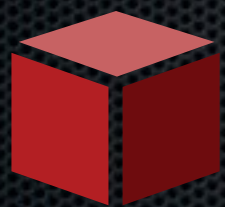


Jack-Daniyel Strong

Jack is the President of J-D Strong Consulting, Inc. and Strong Solutions. As a member of the Apple Consultants Network, grew from a one-man consultancy into an Apple Authorized Reseller and Service Provider for the Eastern Washington and Northern Idaho area.

Strong Solutions' sole focus is on MacOS and iOS solutions for Small and Medium Business.



**STRONG
SOLUTIONS**



Authorized
Reseller

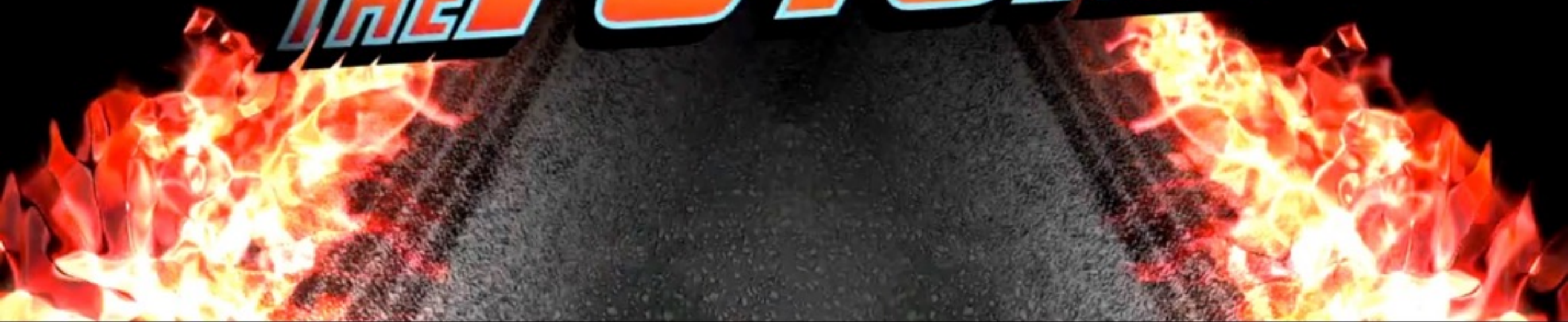
Authorized
Service Provider



Authorized
Reseller
Authorized
Service Provider

Time Machine Deep Dive, and Fitting it Into a Backup Strategy

BACK TO THE FUTURE™



tmutil



tmutil



man tmutil

one of the best written man pages ever

tmutil: quick overview of verbs you want to know about

setdestination

inheritbackup

startbackup

associatedisk

restore

calculatedrift

destinationinfo

uniquesize

compare

disablelocal

enable/disable

Turn on/off automatic backups.

```
sudo tmutil enable
```

```
sudo tmutil disable
```


setdestination

configure a local HFS+ volume or
AFP share as a backup destination

```
sudo tmutil setdestination /Volumes/  
BackupDrive
```

```
sudo tmutil setdestination -p  
marty@elbserver.private/  
TimeMachineBackup
```

```
sudo tmutil setdestination -p  -a  
marty@elbserver.private/  
TimeMachineBackup
```


inheritbackup

claim a machine directory or sparsebundle
for use by the current machine.

```
sudo tmutil inheritbackup /Volumes/  
BackupDrive/Backups.backupdb/MyMac
```


associatedisk

bind a snapshot volume directory
to the specified local disk

```
sudo tmutil associatedisk “/Volumes/  
Macintosh HD” “/Volumes/BackupDrive/  
Backups.backupdb/MyMac/Latest/  
Macintosh HD”
```


exclusions

configure Time Machine (not) to back up a
file, directory, or volume

```
tmutil addexclusion /Users/brown/  
Downloads
```

```
tmutil removeexclusion /Users/brown/  
Downloads
```

```
tmutil isexcluded /Users/brown/Desktop  
> [Included] /Users/brown/Desktop
```


exclusions

taking exclusions to the next step
as part of a scripted backup

```
tmutil addexclusion "/System" "/Library"  
"/Applications" "/var" "/etc"  
"/Developer" "/Groups" "/Incompatible  
Software" "/Volumes" "/bin" "/cores"  
"/usr" "/tmp" "/temp" "/opt" "/net"  
"/home" "/Shared Items" "/Network"  
"/Groups"
```


latestbackup

print the path to the most recent snapshot
for this computer

```
tmutil latestbackup
```

```
/Volumes/BackupDrive/  
Backups.backupdb/MyMac/  
2015-06-24-085320
```


listbackups

print paths for all of this computer's
completed snapshots

```
tmtutil listbackups
```

```
/Volumes/BackupDrive/Backups.backupdb/MyMac/2015-06-24-003620  
/Volumes/BackupDrive/Backups.backupdb/MyMac/2015-06-24-024221  
/Volumes/BackupDrive/Backups.backupdb/MyMac/2015-06-24-044832  
/Volumes/BackupDrive/Backups.backupdb/MyMac/2015-06-24-065527  
/Volumes/BackupDrive/Backups.backupdb/MyMac/2015-06-24-085320
```


uniquesize

determine the actual size
of the backup you just created

```
tmutil uniquesize /path/to/backup
```

```
sudo tmutil uniquesize "$(tmutil  
latestbackup)"
```

```
94.8M      /Volumes/BackupDrive/  
Backups.backupdb/MyMac/  
2015-06-24-085320
```


calculatedrift

analyze snapshots in a machine directory and
determine the change between each

```
tmutil calculatedrift "$(tmutil  
machinedirectory)"
```

```
94.8M      /Volumes/BackupDrive/  
Backups.backupdb/MyMac/  
2015-06-24-085320
```


destinationinfo

analyze useful information
about your backup destination

```
tmutl destinationinfo
```

```
> =====
```

```
Name      : BackupDrive
Kind       : Local
Mount Point : /Volumes/BackupDrive
ID         : D0F44680-4FB7-4E06...
```

```
tmutl destinationinfo | awk '/Kind/{print $3}'
```

```
Local
```


restore

restore an item inside a snapshot
to a given destination

```
restore /path/to/backup /path/to/dest
```

```
tmutil restore /Volumes/BackupDrive/  
Backups.backupdb/MyMac/Latest/MachD/  
Users/brown/Desktop/FluxCapacitor.doc  
/Volumes/MachD/Users/brown/Desktop/
```

```
Total copied: 8.32 MB (8721361 bytes)  
Items copied: 1
```


restore



restore multiple items to a given destination
similar to cp or ditto

```
tutil restore /Volumes/BackupDrive/  
Backups.backupdb/MyMac/Latest/MachD/  
Users/brown/Documents/DeLorean/  
Before.jpg /Volumes/BackupDrive/  
Backups.backupdb/MyMac/Latest/MachD/  
Users/brown/Documents/DeLorean/  
After.jpg /Volumes/MachD/Users/brown/  
Desktop/
```


startbackup



tell a group of machines to all backup
using Apple Remote Desktop (ARD)

```
tmutil startbackup
```

```
tmutil startbackup --block && printf  
"\a"
```


snapshot



create a new local Time Machine snapshot

`tmutil snapshot`

Local snapshots: See [HT4878](#)

disablelocal



turn off local Time Machine snapshot &
cleanup of accumulated local snapshot data

```
sudo tmutil disablelocal
```

Useful for Servers

Disable processes that could cause disk thrashing if a backup drive were to become unresponsive

Other Useful Commands



```
defaults write com.apple.TimeMachine  
DoNotOfferNewDisksForBackup -bool YES
```

```
defaults write /Library/Preferences/  
com.apple.TimeMachine RequiresACPower  
0
```

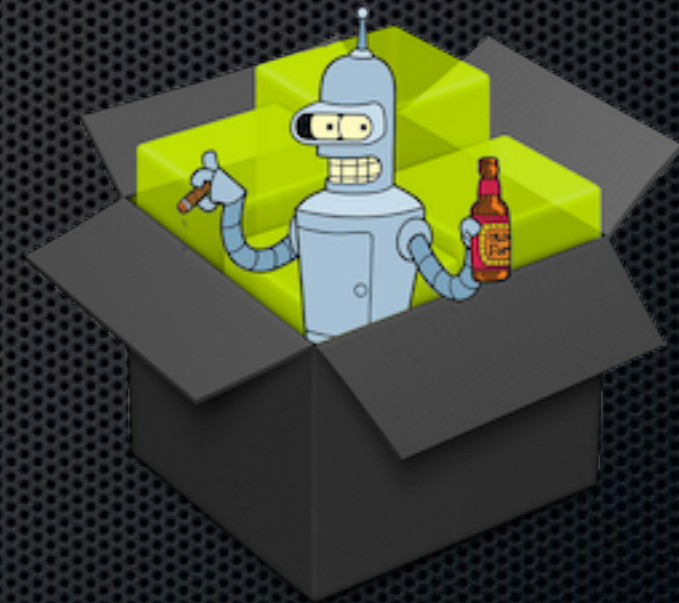

Using Time Machine to Backup Servers

- use `tmutil disablelocal`
- ServerBackup native backup service for OS X Server
 - takes part in the restoration of server services
 - look for `OpenDirectoryMaster.sparseimage` in `/var/backups/`
- Restoring OS X Server from a Time machine backup.
See [[HT202406](#)]

Backing up Servers Alternative Tools



- Bender

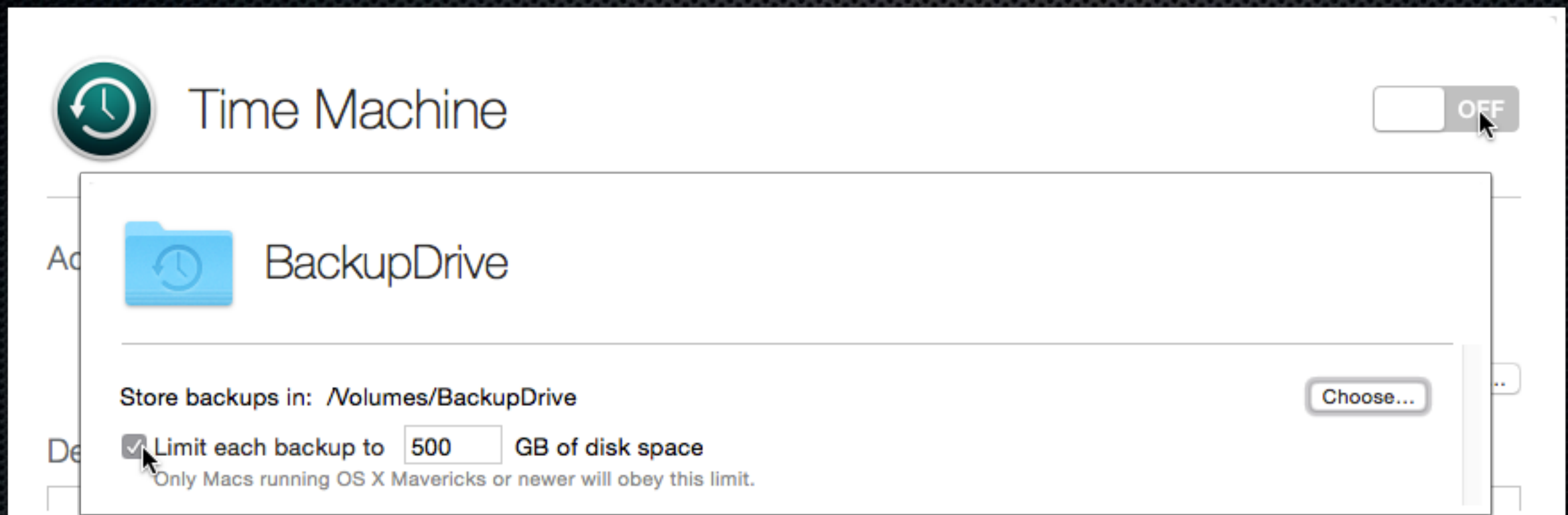


- Bootable Clone

OS X Server

Time Machine Service

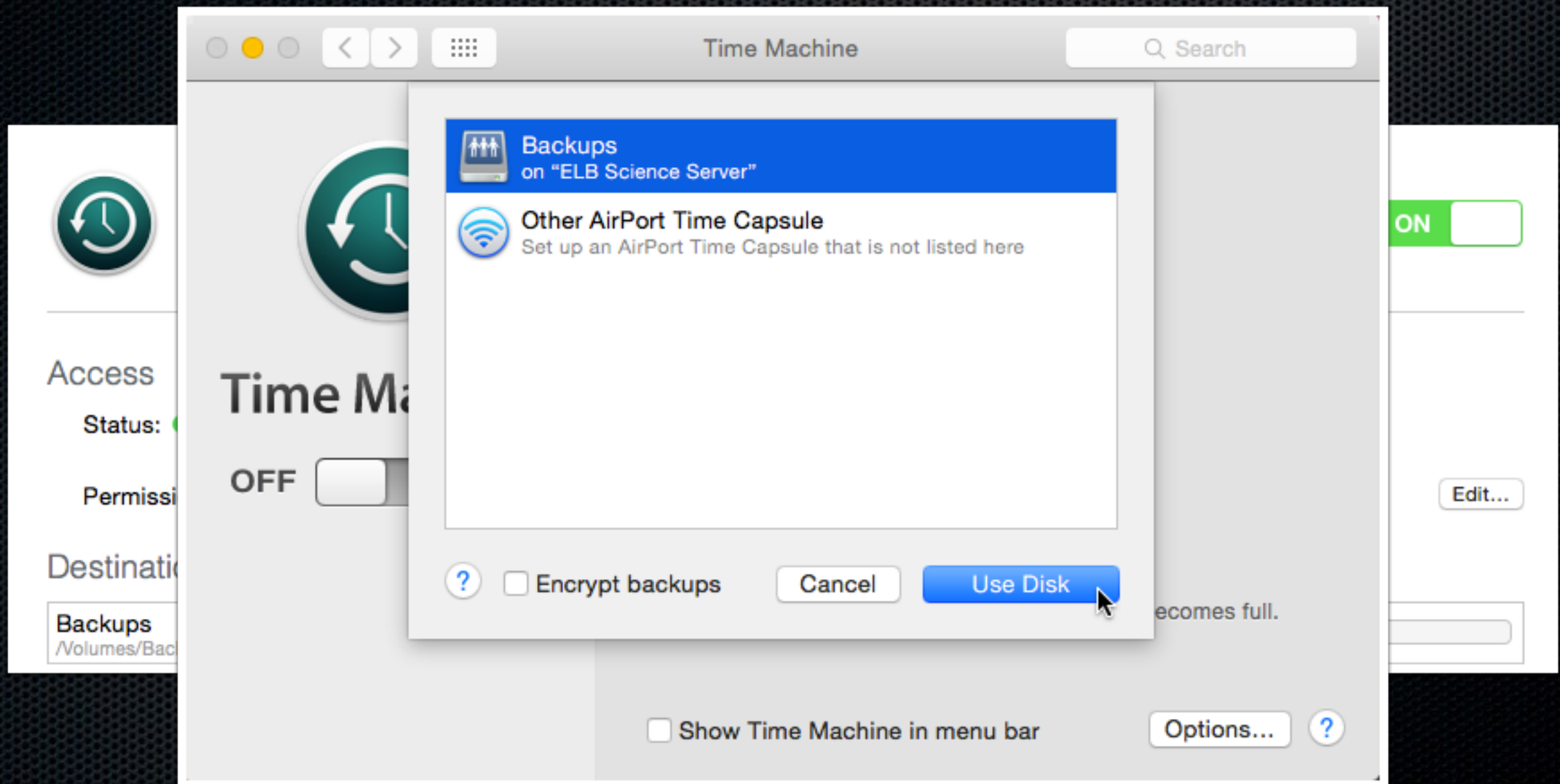
- Enable Time Machine in just a few clicks



- Direct backups to different storage locations
- Set Space Restrictions (Mavericks and above only)

OS X Server Time Machine Service

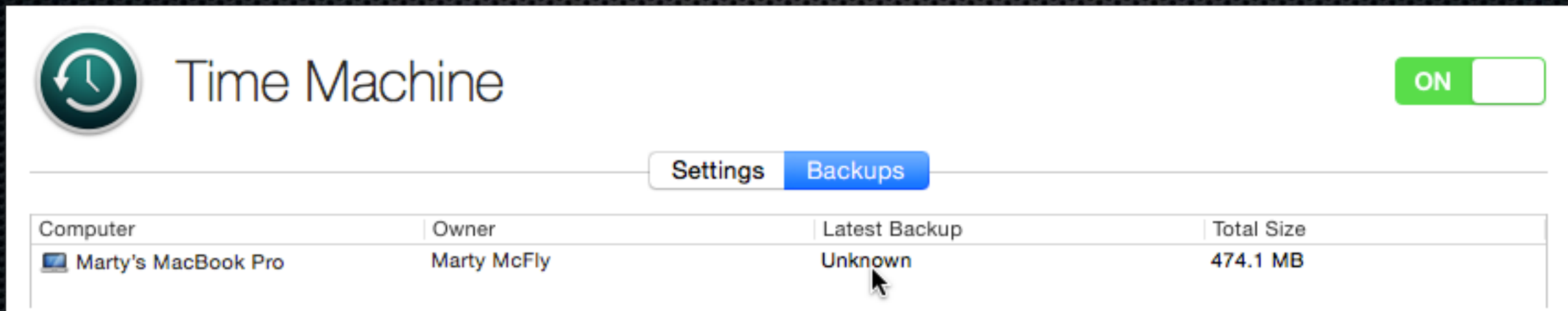
- Time Machine is now a destination on the network




OS X Server

Time Machine Service

- Track backups
- Push and email notification if a backup has not completed



The screenshot shows the Time Machine service interface in OS X Server. At the top left is the Time Machine icon (a clock with a circular arrow). To its right is the text "Time Machine". On the far right is a green toggle switch labeled "ON". Below this is a horizontal bar with two tabs: "Settings" and "Backups", with "Backups" being the active tab. Under the "Backups" tab is a table with four columns: "Computer", "Owner", "Latest Backup", and "Total Size". The table contains one row of data for "Marty's MacBook Pro", owned by "Marty McFly", with a "Latest Backup" status of "Unknown" and a "Total Size" of "474.1 MB". A mouse cursor is pointing at the "Unknown" text.

Computer	Owner	Latest Backup	Total Size
 Marty's MacBook Pro	Marty McFly	Unknown	474.1 MB

3-2-1: Rules for yourself

- 3 copies of each important file
- 2 different media (disk, cloud, etc..)
- 1 copy stored in another location



Example Configurations



local backup to one drive

Example Configurations



local backup to two drives

Example Configurations



local backup & network backup

Example Configurations



local backup & bootable clone

Example Configurations



local network backup & cloud backup

Big Data

- What do you do when you have 5, 10, or 25 TB of data?
- What are real, practical ways to get this much data backed up?
- What's the expectation for restore time?
 - 15 Mbs: 1 TB = 7 days
 - 100 Mbs: 1 TB = 23 hours
- What's the best ways to have multiple copies, and off site?



Is it ok to use Time Machine as the only solution?

- The answer is almost always

“no”

- Time Machine is not strong on reporting
- Geared towards home users

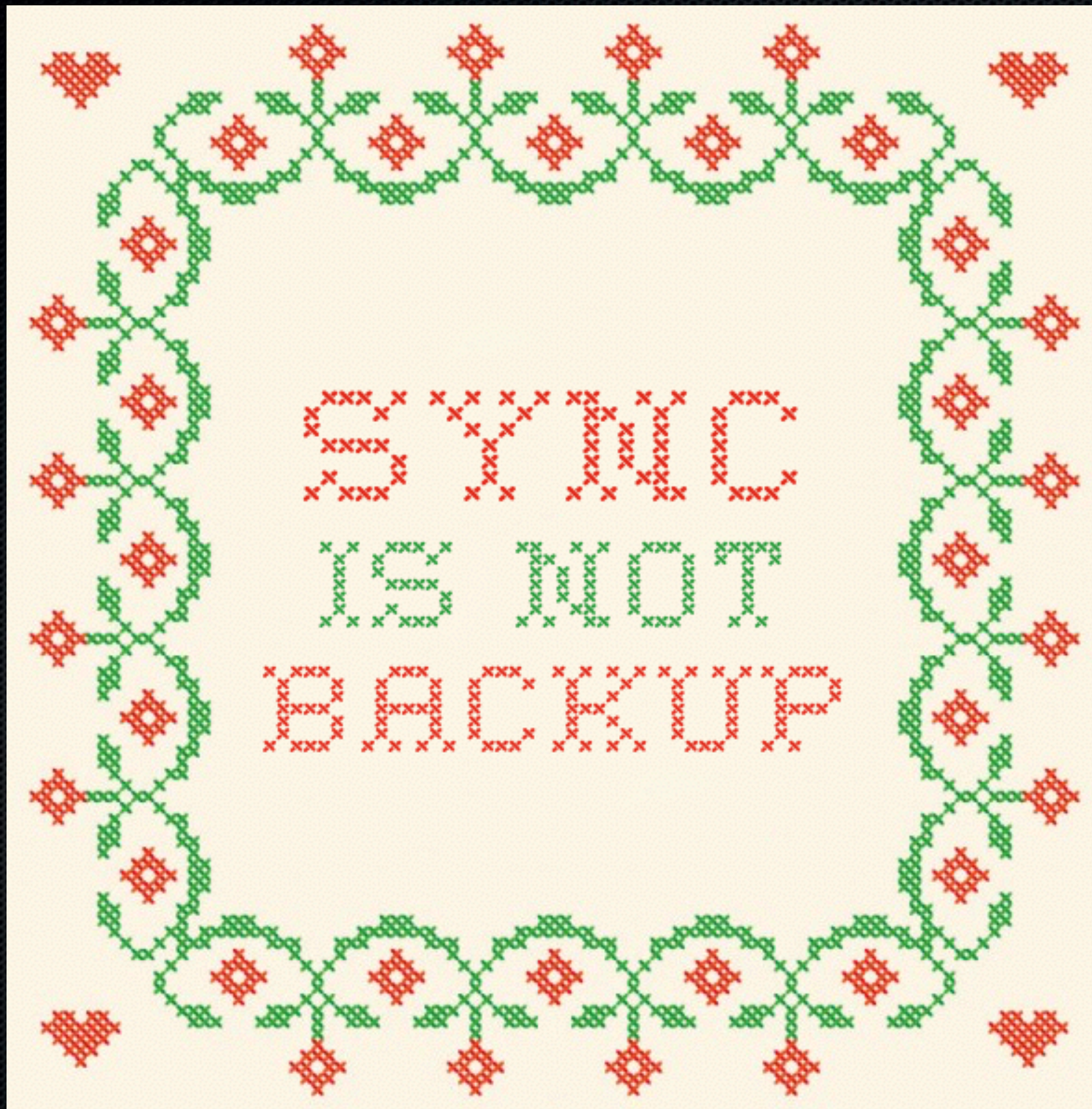


Network and cloud backup from Third Parties

- Why do you use a third party?
 - Scalability
 - Reliability
 - Reporting
 - Features
- Take note of bootable restore, or not
- Cloud or local?
- What media options are offered?

Sync \neq Backup





Third Party options:

- Backblaze: Easy, inexpensive
- Code42 / Crashplan: Configuration and data location options, scalable
- Acronis: Remote client speed
- Archiware for large archives
- Retrospect: Media types, legacy
- Consumer Cloud: Carbonite, Mozy, DollyDrive
- Sync Utils: ChronoSync, Synchronize! X Plus, BitTorrent Sync
- Clones: dmg, SuperDuper, Carbon Copy Cloner, CopyCatX

More Resources

- Time Machine
 - Transfer Time Machine backups to a new drive [[HT202380](#)]
 - Local Snapshots [[HT202301](#)]
 - Time Machine Troubleshooting [[PH18850](#)]
 - [Krypted: Yosemite Server Time Machine Service](#)
 - [Pondini.org](#)
- TimeMachine Tools/GUIs/etc.
 - [Watchman Monitoring](#) (reporting, set trigger time and frequency)
 - [Time Machine Editor](#) (schedule editor)
 - [iScheduleTimeMachine](#) (schedule editor & toolbar replacement)
 - [BackupLoupe](#)
 - [TimeMachineScheduler](#)
- tmutil
 - [Man Page](#)
 - [Krypted: Mass Deploying Time Machine](#)
- [OS X Server Essentials 10.10](#) by Arek Dreyer, Ben Greisler
- [BackBlaze Best Drive Survey](#)

Questions?



Jack-Daniyel Strong
jack@spokanemac.com
@SpokaneMac