The droid you're looking for…
how to boot any Mac for diagnostics and recovery

What are we going to cover?

- Last year we went over tips and tools to keep on your laptop to make your job easier.
- This year we're going to talk about tools to keep on a hard drive.

Why create one?

- Getting data off failed harddrives
- Running diagnostics
- Fixing tough issues (file deletions, etc)
- Installing Mac OS X without downloading it
- Storage for large, useful files (adobe CC installer, Xcode, etc)
- Can't always rely on the internet being fast



Drive Setup

- Format the drive for the platforms you need
  - GUID will work for most
  - APM if you *still* have PPC computers.
- APM's downside is less flexibility with adjusting partitions later, best to keep one separate drive for 10.5/10.6 machines

Let us count the ways/drives…

- Considerations for partitions:
  - How many OS to support booting from?
    - Different versions
  - How many OS installers to use?
  - How many devices to maintain?

Let us count the ways…

- Resolve:
  - One droid for older computers, if needed
  - One droid with a 10.11 (latest)
    - Each of these with a storage volume
  - Thumb drives for OS installers you use often
  - Netboot images of all.

Getting a clean slate

- Just launch Disk Utility, right?
  - Formatting options include Hard Disk Manager, Partition Manager, and iPartition
  - MacSales ships Drive Manager which works well.
  - The command line
  - Free, just takes some effort

Getting a clean slate

- Terminal formatting goes like this:
  - diskutil list
  - diskutil listFilesystems
  - diskutil partitionDisk
    - simple, right?

Breaking up is easy to do

- diskutil partitionDisk /dev/disk2 GPT
  JHFS+ "Recovery HD" 1g
  JHFS+ "Install 10.8" 20g
  JHFS+ "Install 10.10" 20g
  JHFS+ "Install 10.11" 20g
  JHFS+ "Boot volume" 0g
  JHFS+ "Storage drive" 0g

Filling in the Blanks

- Recovery HD
  - May get this via a normal OS install.
  - Carbon Copy Cloner makes this easy.
  - Useful if you get a computer that won't boot your OS.
  - Useful for direct restoration of a Time Machine backup

Filling in the Blanks

- Installer Partitions
  - "createinstallmedia" makes this simple.
  - DiskMakerX is even easier

Filling in the Blanks

- Boot Partition
  - Install an OS like any other, create a user.
  - If space is an issue, install the OS on a larger partition, trim out print drivers, languages then clone in place.
  - Because of virtual paging storage space, skimping on the boot volume size may do more harm.

What a mess!

- With 3-4 Installer partitions, mounting this drive is a mess every time.
- Hide the volumes you don't need using chflags
  - sudo chflags hidden "/Volumes/Install 10.8"
  - Undo using chflags' "nohidden" noun

Hi ho, Hi ho...

- Storage Partition is where we get real work done.
  - Installers
  - Space for data recovery
  - Odds & ends
  - Emergency donor boot volume

Fill'r Up!

- The /Applications folder of your Boot volume is really what this session is all about. Let's dig in!
  - General Tools
  - Hardware Diagnostics
  - Disk Utilities
  - Data Recovery

But first, a message...

- A brief note that many of the tools in this deck are commercial, and a diagnostic drive which you own isn't always specifically covered by the license.
- When in doubt, the person who truly benefited from the software should end up owning a copy of their own.
- This may be one that you buy & keep, or one your end user buys. Playing nice gets better software.
- Same goes for open source tools. Karma rules.



General Tools

- EasyFind
- Geekbench
- OmniDiskSweeper
- SnapNDrag
- TextWrangler

Hardware Diagnostics

- Coconut Battery
- Hardware Monitor
- Memtest
- Watchman Monitoring

Disk Utilities

- DiskWarrior
- Drive Genius
- SoftRAID
- Your favorite Remote Access

Data Recovery

- Carbon Copy Cloner
- CopyCatX
- DataRescue
- FileSalvage



But wait, there's more!

- The general computer setup is what this session is really all about. Let's document!
  - System wide preferences
  - User Preferences & Dock

System Setup

- Energy Saver - No sleep
- Disable Spotlight
- Configure remote access
- .com.apple.timemachine.donotpresent
- Increase the max open files



User Preferences

- Finder
  - Show all extensions
  - Show hidden files
  - Don't write .DS_Store
  - Sidebar & Dock

- Any other change you want to make as you go... we'll discuss how to "save" this setup in a coming slide.



Wait, Again?

- As time goes by, things will happen to your droids.
- New OS, bad cables, needing to leave one on-site.
- Here's how to get back to good, without having to learn a huge new workflow.

- Package the Droid's setup



Checked vs Carryon

- There are other systems - autopkg, deploystudio, and others. If you are already familiar, they may be best, but for just making a droid, packaging your settings & installing fresh can be a benefit.
- We're going to track this at
- https://github.com/watchmanmonitoring/droid



Checked vs Carryon

- Once you get your user account setup Just Right, dock, etc, we'll freeze-dry that by creating a pkg of the home directory.
- As you adjust system-wide settings, keep track and add them to a post-flight for the user installer.
- As new OS comes out, or you need to build a new drive, install the OS from scratch, set up a temporary user, then install your package.
- Create a new user to match the name you packaged, and when you log in, everything will be as you expected.



Questions?



Christian Woodward
christian.woodward@watchmanmonitoring.com

MACTECH PRO EVENTS

TextWrangler



- Free (no licensing drama)
- Opens any file
- Finds things fast in files or folders

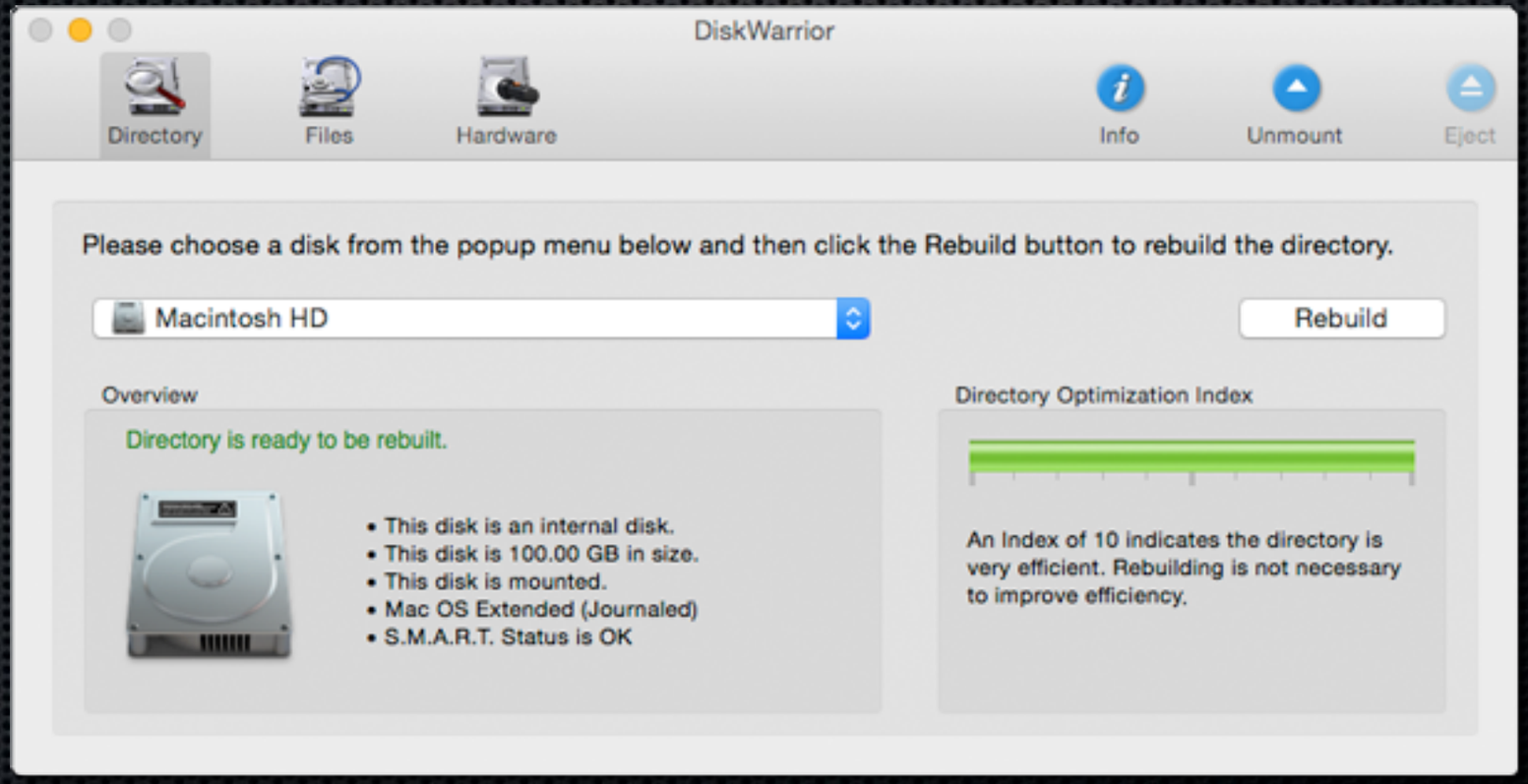
http://barebones.com/products/textwrangler/benefits.html



DiskWarrior



With a single click, DiskWarrior reads the damaged directory and finds all salvageable files and folders and builds a new error-free, optimized directory for you to use.



EasyFind



- It's fast!
- Finds anywhere on the filesystem, even inside files
- So much control you'd think it was Sherlock