Mac OS X for Unix Geeks

Hit The Ground Running
Overview

1. System Architecture
2. System Administration
3. GUI Tricks
4. Command line tricks
5. Docs & Resources
Architecture
Directory Layout

- /
- /Applications and /Applications/Utilities
- /Library
- /System and /System/Library
- /Users, /Users/tlim, /Users/Shared, etc.
Applications are Directories

$ cd /Applications

$ ls -lad iCal*

drwxrwxr-x ... 102 Sep 29 14:57 iCal.app

$ cd iCal.app

$ ls

Contents
$ ls Contents/

Info.plist  MacOS  PkgInfo  Resources
version.plist

$ file Contents/MacOS/iCal

MacOS/iCal: Mach-O universal binary with 2 architectures

MacOS/iCal (for architecture i386): Mach-O executable i386

MacOS/iCal (for architecture ppc): Mach-O executable ppc
App docs are too

$ ls -lad H*
drwxr-xr-x  54 tal  tal  1836 Dec  3 12:38 HTGR-MacOSX.key
$ cd HTGR-MacOSX.key
$ ls
Contents
Hard_Cover_bullet.tiff
Hard_Cover_photo-h.tiff
Hard_Cover_photo-v.tiff
...
index.apxl.gz
...
Resource Forks

- Still exist!

- Why? To piss me off, that’s why.
Copying all that metadata

- "ditto"
- "ditto -rsrc" -- Copies "resource forks"
- --nocache (Doesn’t thrash disk cache)
- rsync -E
  - Copies “extended” file attributes
- SuperDuper -- www.shirt-pocket.com
  - ONLY utility that really copies all meta data: ACLs, timestamps, ownership, “resources”
SysAdmin
Startup Scripts

- Apple’s startup items:
  - /System/Library/StartupItems/
- Apps and Homegrown items:
  - /Library/StartupItems/
  - .../StartupItems/Foo/Foo start
  - .../StartupItems/Foo/Foo stop
Dynamic DNS

- `ssh tommac.local`

- The “.local” domain is maintained by a peer-to-peer DNS system called “Bonjour” (was Rendezvous)

- Free download for Windows
Examples

- ssh hostname.local

- rsync -avP ~/Music/iTunes/.
  hostname.local:/Users/Shared/Music/iTunes/.

- Bonjour Browser
  - www.tildesoft.com/Programs.html
Mounting Disks

- CMD-K -- Mount from a file server:
  - nfs://servername.com/path/
  - smb://servername/sharename
  - smb://workgroup;username@netbiosname/share
  - smb://[[[domain;]user[:passwd@]]server[/share[/path[/file]]]]

- You can create bookmarks/shortcuts to these.
Command Line Tricks
The Terminal app

- Like xterm:
  - Not an X11 app
  - Cut and Paste works really well

- Day-1 Activities:
  - Add it to your app bar
  - Set reasonable prefs:
    - Terminal -> Window Settings (not Preferences)  -- Shell -- Close The Window
Terminal Tricks

- Demo: Drag icon into Terminal
The “open” command

- like clicking on a file or directory
  - `open file.ext`
  - Opens with the default app
  - `open dirname`
  - Opens that directory in the Finder
  - `alias here="open ."`

- `open -a /Application/suchandsuch file.ext`
- `open -f`
“open” is magic

cat file.txt | open -f -a /
Applications/Microsoft\ Office\
2004/Microsoft\ Word
Unix Software

- **fink** -- fink.sourceforge.net
  - Installer for all the usual GNU and F/OSS packages you may be missing.
  - I avoid this. I try to “go native”
wget

- `wget? use "curl -O"`
Screw up nvram from
the command line

nvram [-p] [-f filename] [-d name] name[=value] ...

- p print all firmware variables
- f set firmware variables from a text file
- d delete the named variable
name=value set named variable
name print variable
Watch the pretty boot messages

$ nvram boot-args
boot-args
$ sudo nvram boot-args="-v"
Mess with Airport

```
/System/Library/PrivateFrameworks/Apple80211.framework/Versions/A/Resources/airport -h
```
PB access from command

- `pbpaste > output.txt`
- `pbcopy < input.txt`
PB Examples (1)

- cat foo | sort | pbcopy (now paste it somewhere)
- pbpaste
- pbpaste | more
Double Header PB

- pbpaste | sort | pbcopy
- pbpaste | sed -e 's/foo/bar/g' | pbcopy
Spotlight

- `mdimport` (force reindex, etc)
- `mfind Rails`
- `mfind -onlyin ~/Desktop Rails`
- `mfind "kMDItemContentType == 'com.microsoft.word.doc'"`
- `mfind "kind:pdf date:your week"`

http://0xfe.blogspot.com/2006/03/using-spotlight-from-os-x-commandline.html
GUI Tricks
Everything is clickable

- Document windows have icon in them
  - Drag to move the file to a directory
  - OPTION-CLICK to view PATH
- iChat image
  - Drag a photo there, it just works.
- Error messages and IP addresses (often) be selected and copied.
The File Browser

- Access Unix directories by typing “/”
- Drag file into File Browser to change dir.
Safari Debug Mode

defaults write com.apple.safari IncludeDebugMenu 1

- Adds the "Debug" menu to Safari.

- If you select "Debug > User Agent", you can have Safari masquerade as Internet Explorer to fool web sites that refuse to serve other browsers.
Scroll Bars

defaults write "Apple Global Domain" AppleScrollBarVariant DoubleBoth

- puts double-scroll arrows on both sides of the scroll bar
Show hidden files

```bash
defaults write com.apple.finder AppleShowAllFiles True
```

- Finder shows hidden files
defaults write
com.apple.screencapture type pdf

- Change file format for screen captures using command-shift-3 or command-shift-4.

- Valid formats: pdf, png, jpg, gif (others?).
Docs/Resources
Summary

- Good web sites:
  - www.MacOSXHints.com
  - developers.apple.com

- File bugs: radar.apple.com

- man pages:
  - open, mdfind, mdls, ditto, rsync