



# Best Practices Hardware, Software &

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# About this Session

- ▶ Installing a New Mac
- ▶ Fundamental Networking Principles
- ▶ Deployment
- ▶ Q & A

# What this Session is About

- ▶ **Sharing of My Best Practices**
- ▶ **Installation and not Troubleshooting**
- ▶ **Plan, Plan : Test, Test, Test : Deploy**
- ▶ **Modular or Monolithic Image Creation**
- ▶ **Networking Fundamentals**

# Installing a New Mac

“boot” {noun}

*the process of starting a computer  
and putting it into a state of  
readiness for operation*

- ▶ **Preparing the Boot Drive**
  - ▶ Reformat or not reformat? Using base images
  - ▶ Purpose of partitions. How many and why?
  - ▶ Partition Map types (APM, GUID, MBR)
  - ▶ Partition types (HFS, HFS+, FAT, NTFS)
  - ▶ Journaling options



# Installing a New Mac

“operating system” {noun}

*the software that supports a computer's basic functions, such as scheduling tasks, executing applications, and controlling peripherals.*

- ▶ Building a Clean OS
  - ▶ Retail vs. machine specific build (compatibility)
  - ▶ Custom install vs. standard install (trim printer drives, languages, fonts)
  - ▶ Software updates (wait 24 hrs., use combo updaters). InstaDMG
  - ▶ Users accounts (root, admin, standard, network, mobile, guest, sharing)





# Installing a New Mac

**“default”** {noun}

*a preselected option adopted by a computer program or other mechanism when no alternative is specified by the user or programmer*

## ▶ Setting Default System Preferences

- ▶ Date & Time: set time zone and time server
- ▶ Network: set inactive ports, set port order, configure active ports
- ▶ Sharing: set hostname, remote management
- ▶ Print & Fax: configure default printers with proper drivers



# Installing a New Mac

“utility” {noun}

*a program for carrying out a routine function*

## ► Utilities and Enhancements

### ► CLI Troubleshooting:

Media Players:

Player

Flash Blocker:

Browsers:

Text Editor:

Remote Access:

Utilities:

Stuffit Expander

AppleJack

Flip4Mac, Perian, VLC, Flash

ClickToFlash

FireFox, Opera, Chrome

TextWrangler

Microsoft RDC Client

Mouse Locator, EasyFind,





# Installing a New Mac

“guide” {*noun*}

*a book, document, or display  
providing information on a subject  
or about a place*

## ▶ User Guides (/Users/Shared)

- ▶ Mac Basics: <http://www.apple.com/findouthow/mac>
- Switcher Tips: <http://www.apple.com/support/switch101>
- iLife Basics: <http://www.apple.com/ilife/tutorials>
- iWork Basics: <http://www.apple.com/iwork/tutorials>
- Keyboard Shortcuts: <http://support.apple.com/kb/>



# Installing a New Mac

**“application”** {noun}

*a program or piece of software designed and written to fulfill a particular purpose of the user*

## ► Applications

- Install latest compatible versions. Install necessary updates
- Launch as admin user. Licensing and downloaded warning
- Use site licenses as much as possible or keep unlicensed



# Installing a New Mac

“test” {noun}

*a procedure intended to establish the quality, performance, or reliability of something, esp. before it is taken into widespread use*

- ▶ Test, Test, Test, Tweak, Test, Test, Tweak, Test, Tweak
- ▶ Every little problem and tweak not fixed in image needs fix x times
- ▶ “Beta Test” image with users before deployment
  - ▶ Connectivity and printing
  - ▶ Authentication and authorization



# Installing a New Mac

“tweaking” {verb}

*improve (a mechanism or system) by making fine adjustments to it*

## ► Tweaking Tips

- Migration assistant: Should one use it? Can bring problems with it
- Sharing local printers: Good idea? Do not reshare printers
- CUPS–PDF and PDF workflows
- DVD region code





# Installing a New Mac

“cleanup” {noun}

*an act of removing or putting an end to disorder*

## ▶ Cleanup Image for Deployment

- ▶ `sudo rm -rf /Library/Caches/*`
- `sudo rm -rf /System/Library/Caches/*`
- `sudo rm -rf /System/Library/Extensions/Caches/*`
- `sudo rm -rf /etc/ssh_host*`
- `sudo rm -rf /var/db/Spotlight/*`
- `sudo rm -rf /var/db/.com.apple.iokit.graphics`
- `sudo rm -rf /Library/logs/*`
- `sudo rm -rf /.Trashes/*`





# Installing a New Mac

“cleanup” {noun}

*an act of removing or putting an end to disorder*

## ▶ Cleanup Image for Deployment Continued...

- ▶ `sudo rm -rf /var/db/SystemEntropyCache`  
`sudo rm -rf /var/db/volinfo.database`  
`sudo rm -rf /var/db/dhclient/leases/*`  
`sudo rm -rf /var/tmp/*`  
`sudo rm -rf /var/vm/*`  
`sudo rm -rf /var/log/*`  
`sudo rm -rf /var/folders/*`



# Deploying Macs: Monolithic

*“monolithic” {adjective}  
formed of a single large block*

- ▶ Reset Local KDC (do not restart after reset)
- ▶ Make .dmg of image. (Target Disk Mode & Disk Utility)
- ▶ Scan Image for Restore
- ▶ Restore .dmg to multiple Macs

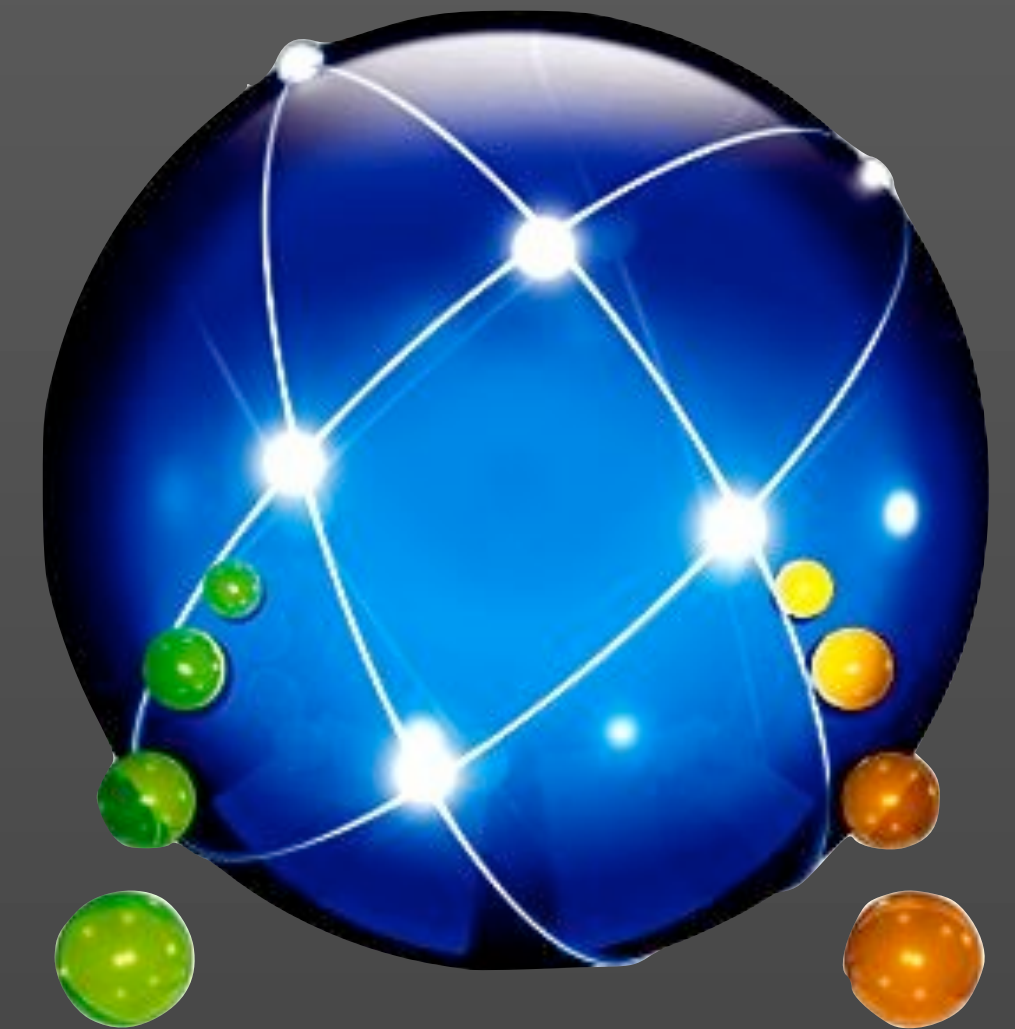


# Deploying Macs: Mo

**“modular”** {*adjective*}

*employing or involving a module or modules as the basis of design or construction*

- ▶ Format/Partition + Base OS + Updates + Host Name  
OS Tweaks + Utilities + User Accounts + Applications + User Guides + Drivers + Binding
- ▶ Package Creation (Composer, PackageMaker)



# Installing Networks

“network” {noun}

*a system of connected electrical conductors*

- ▶ Networking Fundamentals
  - ▶ IPv4 vs. IPv6. Prepare for the transition
  - ▶ IP numbers: Public vs. Private, Static vs. Dynamic
  - ▶ Subnet Mask. DNS Setting. DNS Server
  - ▶ MAC Address
  - ▶ 802.1X Authenticated Networking



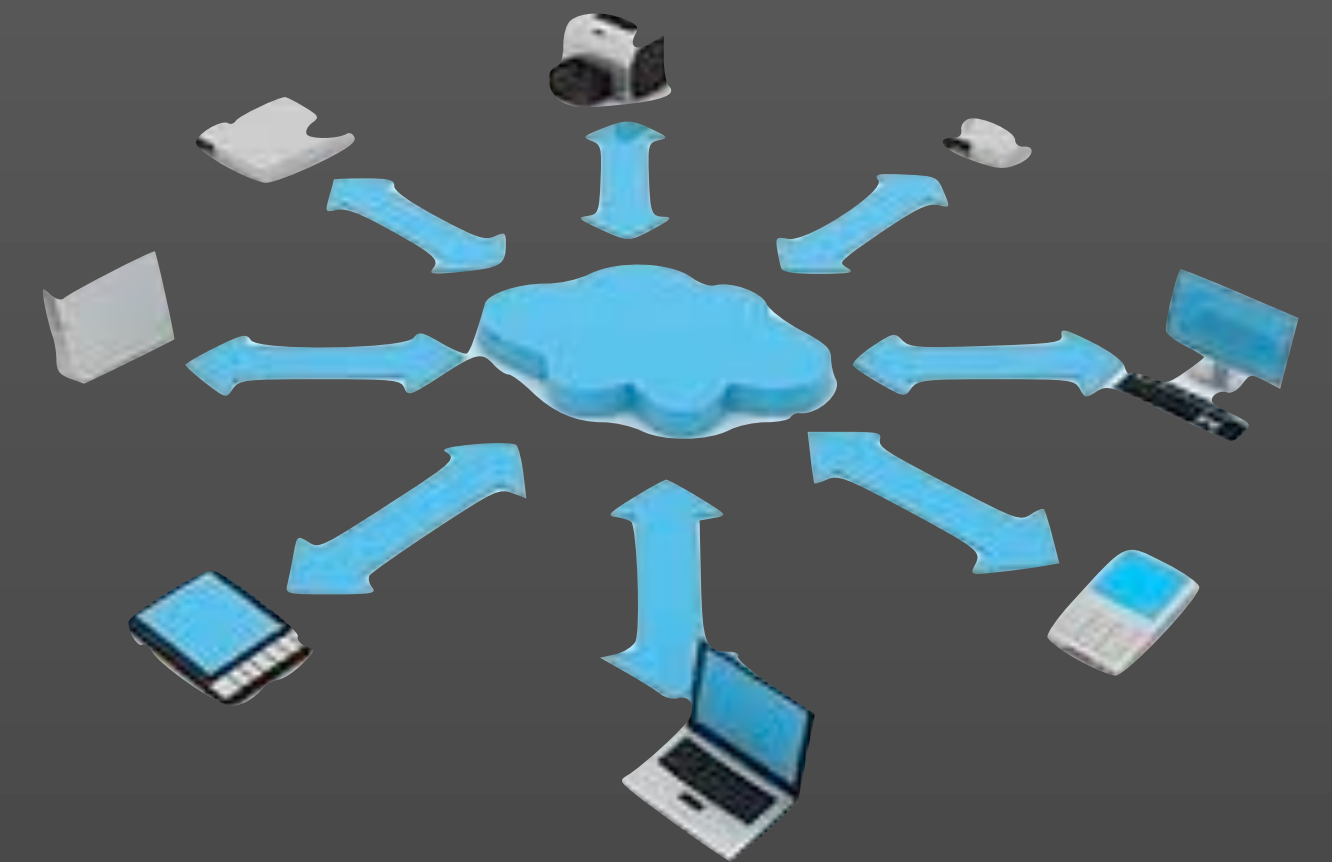


# Installing Networks

“wireless” {noun}

*computer networking, broadcasting, telephony, or telegraphy using radio signals*

- ▶ **Wireless Networking Fundamentals**
  - ▶ Private and Guest Network
  - ▶ Avoid WEP. Use WPA
  - ▶ Tools: Airport Utility, AirRadar, KisMac, Wireless Grapher, AP Grapher
  - ▶ Bridge vs. Router Modes





# Installing Networks

“vpn” {noun}

*a method employing encryption to provide secure access to a remote computer over the Internet*

- ▶ **VPN (Virtual Private Networks)**
  - ▶ No Open Networks or Ports
  - ▶ Authentication Methods: Password, Password + Shared Secret, Certificate
  - ▶ VPN Clients: Built-In, VPN Tracker, IPSecuritas
  - ▶ Firewall and Port Forwarding



# Network Best Practice

“practice” {noun}

*repeated exercise in or performance of an activity or skill so as to acquire or maintain proficiency in it*

- ▶ Determine subnet size and mask. Pick IP number range
- ▶ Group IP ranges in subnet by type
- ▶ DNS Server with Forwarders
- ▶ Firewall & VPN
- ▶ DHCP for clients pointing to your DNS server
- ▶ Quality networking gear and cabling



# Q & A

*“Q & A” {noun informal}  
an exchange of questions and  
answers.*

- ▶ Troubleshooting Mindset:  
90% Diagnostics + 10% Remedy =  
Effectiveness
- ▶ Soft Skills for Troubleshooting:  
Be a Good Doctor
- ▶ Best Practice Methodology:  
Listen to instinct and intuition along with  
logic
- ▶ Troubleshooting Tools:



