Making the Transition (& Surviving)

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Current Apple Certifications

Course Names	Certification Level	Length (days)
Mac OS X Help Desk Essentials	ACHDS	3
Mac OS X Server Essentials	ACTC (with Help Desk Essentials)	4
System Administration of Mac OS X Clients	ΔζςΔ	5 days/each course
System Administration of Mac OS X Server		J days/cach course

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Why This Is Important

- Mac OS X is totally new environment. "Unexpected results" may occur during, and after, transition
- Problems in this new environment generally user-related. Administrators need tools and knowledge to stay ahead of the curve and the users
- Planning ahead isn't just a good idea; it is critical to your success

Why This is Useful

- Help system administrators understand what pieces of Mac OS 9 did not make it into Mac OS X
- Communicate what users find MOST frustrating about the transition
- Suggest ways of making the transition as smooth and trouble-free for your users
- Provide resources for further research

I - Primary System Differences

- Before You Begin
- File System Differences
- Missing System Items
- System Preferences
- User Account Types
- User Limitations
- Ownership and Permissions

Before You Begin

- Understand "real life" system requirements
 - Built-in USB
 - 512 MB of RAM
 - 5 GB drive
 - 16 MB video card
- Test applications for compatibility
- Find replacements for missing system features and applications
- Plan ahead for user training!

Missing System Items

- Desktop Database
- Pop-up Folders
- Locations Manager
- Extensions Manager
- Launcher
- Control Strip
- Window Shade
- Chooser

- Memory Management
- RAM Disks
- Apple Menu Modifications
- File Exchange Control Panel
- Annoying Sounds
- Finder Menu

File System Differences

• Mac OS 9

- Short file names: 31 ASCII characters
- Resource forks saved as part of most files
- Files transferred to other systems were often stripped of resource forks often failed to open
- Mac OS X
 - Long file names: 255 UNICODE characters
 - Some applications support resource forks, others strip them off, but most could care less
 - Newer applications prepared as packages
 - HFS+ Journaled by default

System Preferences

- Personal
- Hardware
- Internet & Network
- System
- Other



System Preferences

- Replacement for Control Panels
- Used to make modifications
- Access to individual items based on account type (standard vs. admin)
- May be moved to further restrict access
 - Future system updates may break
 - Symbolic links may be necessary
- Uses root user id (UID) to make changes

User Accounts

- User accounts have limited permissions
 - May read and write to their Home folder
 - May only read other users' Public Folders
 - May only write to other users' Drop Boxes
- Users may only read folders inside:
 - /Applications
 - /System
 - /Library
 - /Users

Administrator Accounts

- Administrator accounts have all permissions of User accounts PLUS...
- Read and write access to:
 - /Applications
 - /Library
 - Base (root) level of the hard disk
- Access to change all System Preferences
- Access to change all file and folder ownership, and thus permissions

System Administrator

- Unix convention, new role in Mac OS X
- Root account or "super-user" sees all, goes anywhere, deletes anything
- Disabled by default NetInfo Manager (/Applications/Utilities) is used to enable the root account
- Administrators may become root user temporarily in command line interface

User Limitations

- Standard users can be further restricted using Accounts Limitations:
- Opening specific System Preference panes
- Modifying the Dock
- Changing their password
- Burning CDs and DVDs
- Simple Finder interface

This user needs:			
No Limits	Some Limit	s	Simple Finder
This user can:			
🗹 Open all System	Preferences	v	hange password

Application Access

- Administrators may set limitations to restrict access to applications
- Click the Locate button to add applications that do not appear in list
- Configuring application limitations DOES NOT modify file permissions

🗹 This u	ser can only use these applications:
Allow	Application
	 Applications Utilities Applications (Mac OS 9) Others
e	Allow All Uncheck All Locate

Simple Finder

- Sole functionality options in Simple Finder:
 - Sleep
 - Logout
 - Trash Can
- Folder access restricted to:
 - Shared
 - Their Documents
 - Their Applications
- "One-click" opens any item in the Finder
- If user tries to access Full Finder from Apple Menu they need admin.'s name and password



Ownership

- Every file and folder belongs to only one owner and only one group
- An owner can be any user
- A group is simple a list of users

Ownership & Permissions:	
You can Read & Write	•
▼ Details:	
Owner: sregan	÷ 🔒
Access: Read & Write	•
-	
Group: sregan	Ŧ
Access: Read only	•
Others: Read only	·

- Groups cannot be modified on Mac OS X client (most user accounts have their own group)
- Only owner, administrative users, or root user can change ownership of file/folder
- Ownership changes can be made:
 - in the Finder using the Get Info (command I) tool
 - In the Terminal using the "sudo chown" commands

Permissions in Mac OS X

- File
 - Read Only
 - Read/Write
 - No Access
- Folder
 - Read Only
 - Read/Write
 - No Access

Write	Only	(Drop	Box

😝 😑 🔘 Migrate 1.ppt Info
▼ General:
Migrate 1.ppt
Kind: Microsoft PowerPoint document Size: 3.3 MB on disk (3,513,302 bytes) Where: Desktop: Created: Monday, December 1, 2003 1:27 PM
Modified: Monday, December 1, 2003 5:50 PM
Stationery Pad Locked
Name & Extension:
Open with:
Preview:
Ownership & Permissions:
You can 🛛 Read & Write 💦 🛟
▼ Details:
Owner: sregan 🛟 🚇
Access: ✓ Read & Write Read only
Group: No Access 🕴
Access: Read only
Others: Read only
Comments:



Permissions

- Ownership and permissions define read and write access to file and folder content
- File permissions are defined separately for owner, group, and others
- Others anyone who can access your computer (including guests)
- Only the owner or the root user can change permissions
- Permission changes can be made:

- You can Read & Write
 You can Read & Write
 Details:
 Owner: sregan
 Access: Read & Write
 Group: sregan
 Access: Read only
 Others: Read only
- in the Finder using the Get Info tool
- in the Terminal using "chmod" as owner or root user

II - Interface Differences

- Finder
- Menu Bar
- Windows
- Toolbar
- Sidebar

- Sheets
- Dock
- Search and Find
- Get Info
- Permissions

Finder

- Access to folders and files
- Labels are back!
- Check your preferences
- Secure Empty Trash

Finder	File	Edit	View
About	Finder		
Prefere	ences	. 🖃	ж,
Empty	Trash	τô	ж«
Secure	Empty	Trash	
Service	s		•
Hide F	inder		₩Н
Hide O	thers	7	жн
Show A	All		
Quit Fi	nder		жQ



Menu Bar

Finder File Edit View Go Window Help 🧞 one o'clock 🕃 🔭 0 🔥 12% 🔒 🕽 🐓 💭 💻 🚸 🐇 🌾 🐨 (Charged)

- Think different (from left to right)
 - Apple menu system items that are always available from any application
 - Application menu application items
 - File menu file items
- Extra menu items located in: /System/Library/CoreServices/Menu Extras/
- Third Party menu extras available
- SystemUIServer process handles menu bar

Windows

- Variety of views
 - Icon
 - List
 - Column
- View Options include background color or picture
- Buttons minimize, maximize, and close $\Theta \Theta \Theta$
- Actions menu



sregan

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Toolbar

- Toolbar may contain frequently used items
- Consider customizing the Finder Toolbar in advance for your users
- Drag and drop items such as folders, files, network drives, applications
- Variety of view options with Toolbar



Sidebar

- Another location for frequently used files and folders
- Set various system items from Finder Preferences
- Drag and drop items such as folders, files, network drives, or applications
- Again, consider setting items for your users in advance



Sheets

- Sheets replaced
 Open/Save dialogs
- Does not take
 System hostage like
 "modal" Mac OS 9
 dialog windows
- View options and Sidebar make navigation through system "tree" easier

	Save: BB	Edit
Save A	s: MW Session Notes	
	 Desktop Documents Library Movies Music Pictures Public Sites 	FinderScrenapz001.tiff Migrate 1.ppt N
Macworld Panther Shared Terminal	ery Options	Cancel Save

Dock

- Location for all running applications, minimized windows, volume shortcuts and the trash
- Also holds any applications, file, folder, or drive
- Apps positioned by default on left/top of the divider, all others on the right/bottom
- Several whizz-bang options available in the Apple Menu and the Dock System Preference Pane
- Many hidden time-saving tricks with mouse and keyboard shortcuts

Search & Find

- Search quickly by name of folder or file:
 - Search on right side of the Finder's Toolbar
 - Use "Back" button to return to normal view
 - Fast search algorithm
- Find has many more search options:
 - Search specific areas
 - Additional criteria can be applied to narrow the scope of search





Get Info

- Shows variety of information for an item or set of items:
- Name & extension
- Open with
- Preview
- Ownership & Permissions
- Comments

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▼ General:
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Kind: Microsoft PowerPoint document Size: 3.3 MB on disk (3,472,384 bytes) Where: Desktop: Created: Monday. December 1, 2003 1:27
PM Modified: Monday, December 1, 2003 1:27 PM
Stationery Pad
Locked
▼ Name & Extension:
Migrate 1.ppt
Hide extension
Open with:
Preview:
Workership & Permissions:
You can 🛛 Read & Write 💦 🗧
Details:
▼ Comments:

Open With

- Documents are opened with their preferred application
- Advice: Don't modify global changes unless it's necessary
- Can be done from the Open menu

😝 \ominus 🔿 Migrate 1.ppt Info
▼ General:
Migrate 1.ppt
Kind: PowerPoint Document
Size: 3.3 MB on disk (3,473,722 bytes)
Where: Desktop:
Created: Monday, December 1, 2003 1:27 PM
Modified: Monday, December 1, 2003 5:50 PM
Stationery Pad
Name & Extension:
Open with:
🕆 Keynote
Use this application to open all documents like this.
Change All
Preview:
Ownership & Permissions:
Comments:

III - Service Support

- File Sharing
- FTP Access
- Network Connections
- Web Sharing
- Printer Sharing
- Remote Access SSH & ARD
- Firewall
- Network Address Translation

File Sharing

- Set Computer Name first
- "Personal" file sharing is the Apple File Protocol using port 548
- Windows sharing is the SMB protocol using ports 137,138,139
- Active for all users
- Share points are predetermined

On	Service	Personal File Sharing On
	Personal File Sharing	Stop Click Stop to prevent users of other computers from accessing Public folders on this computer.
	Windows Sharing	
	Personal Web Sharing	
	Remote Login	
	FTP Access	
	Apple Remote Desktop	
	Remote Apple Events	
	Printer Sharing	

Other Macintosh users can access your computer at afp://10.0.1.2/ or browse for "instructor" by choosing Network from the Go menu in the Finder.

FTP Access

- Sharing via FTP uses ports 20 and 21
- Users can access their home folders
- NOT secure
- FTP on Mac OS X is now browseable
- SFTP (via SSH) is a much more secure file sharing option



Other people can access your FTP server at ftp://10.0.1.2/ or browse for "instructor" by choosing Network from the Go menu in the Finder.

FTP File System Authentication
Enter your user name and password to access the server at the URL "ftp://10.0.1.2/".
Your name and password will not be sent securely
Name
sregan
Password
•••••
Remember password (add to keychain)
Cancel OK

Network Connections

- Connect To Server dialog (command K)
 - Enter specific addresses
 - Add favorite servers
- Use Network globe icon in Finder to browse network

0 0	Connect To Server
Server Address:	
	+ 0.
Favorite Servers:	
Remove	Browse Connect

Web Sharing

- Mac OS X uses popular and secure opensource Apache web server
- Computer's default website
 - /Library/WebServer/Documents/
 - http://<computername>/
- User site(s)
 - /Users/<username>/Sites/
 - http:// <computername>/~ <username>/
- By default uses port 80; you may change port number in Apache config files

Printer Sharing

- Shares any printers previously set up
- Configured from Sharing or Print/Fax Printer Sharing
 System Preferences panes Share my printers with other computers
- Uses the open-source Common UNIX Printing System (CUPS)
- Can be confusing for others:
 "I see two identical printers"
- Uses ports 631 and 515
- Administration via http://127.0.0.1:631

Remote Access via SSH

- Allows user to access other machines via the command line: ssh <username>@<hostname>
- All authentication and commands all take place on the remote computer
- All communications are encrypted
- Requires understanding command line tools
- Enabled via Sharing pane in System Preferences
- Also enables SFTP and SCP
- Enabled by default on Mac OS X Server

Remote Access - ARD

- Apple Remote Desktop provides many control and reporting options
- Choose user allowed to access remotely
- Select permissions for each individual user
- Status menu can be shown in menu bar
- No need to run around to users' desks!

On User		Allow user to do the following on this compute
Schoun Regan Amie	Generate reports	
	Open and guit applications	
	Change settings	
	Delete and replace items	
	Send text messages	
	Restart and shut down	
	Copy items	
	Control and observe	
	Show when being observed	
		Computer Information
	These fields are	displayed in the System Information Report
Info 1	PowerBook	Apple Remote Desktop program.
	TOWEIBOOK	Show status in menu par
Info 2	Inote Apple Events	Info 4:
		Cancel
		Access Pavilea Caller

Built-in Firewall

- Firewall protects computer from unauthorized access by restricting access to specific ports
- Located in Sharing pane of System Preferences
- Uses standard UNIX ipfw rules; can be administered via command line

Firewall Off



Specify a port on which you would like to receive networking traffic. Other ports can be specified by selecting 'Other' in the Port Name popup. Then enter a the port name and a number (or a range or series of port numbers) along with a description.

Port Name:	VNC
Port Number, Range or Series:	5900-5902
	Cancel OK

Network Address Translation

- Takes existing Internet connection and shares it via another network interface
- IP range is 192.168.2.X
- Starts DHCP server on client



Hints for Easier Transition

- You can customize the standard help files that are supplied by Apple (they're basic HTML) and modify it to meet your users' needs
- Learn to love Disk Utility (/Applications/Utilities/ and on installation disk #1) create images especially for your needs - can also be encrypted and compressed
- Gain agreement on a standard image with management and/or user representatives and test then test again
- Talk to Apple about one-day training courses for your users and advanced courses for your technical team (any course can be delivered at your facility too)

Synopsis

- Introduction
- System Differences
- System Preferences
- User Accounts
- User Limitations
- Ownership & Permissions
- Interface Differences

- Interface Differences
- Finder & Search
- Dock & Toolbars
- Get Info Options
- Sharing Services
- Remote Access
- Final Thoughts
- More Resources

Further Information

• Websites:

- http://www.apple.com/macosx/
- http://www.macosxhints.com/
- http://www.osxfaq.com/
- http://www.macosxlabs.org/
- Books: O'Reilly, Peachpit, SAMS, etc.
- Training:
 - http://train.apple.com/
 - http://www.itinstruction.com/

Thank You!

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