

# Configuring Macs in a Lab Environment at UNC-CH

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# Step 1: OS 10.3 Upgrade

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- ❑ If upgrading from OS 9.x, do a firmware update first!
- ❑ Choose Erase and Install
- ❑ Maybe leave off multi-language support, other unnecessary features
- ❑ Create default admin account with strong password
- ❑ Run Disk Utility to verify and repair permissions



# Disk Utility



- 12.8 GB QUANTUM FIRE...
- Smallwood**
- 125.0 MB IBM Memory K...
- NO NAME

First Aid Erase Restore

To use First Aid, select the volume and click a repair button.

- You can verify or repair any volume format supported by Mac OS X.
- First Aid cannot repair a write-protected disk, a CD-ROM, or a disk with open files. To repair or verify the startup disk, boot from the Mac OS X Install CD and select Disk Utility from the Installer Menu.
- You may only repair permissions on a volume with Mac OS X installed.
- If Disk Utility cannot make repairs, try other disk repair programs or back up your data and erase the volume.

Verify Disk Permissions

Verify Disk

Repair Disk Permissions

Repair Disk

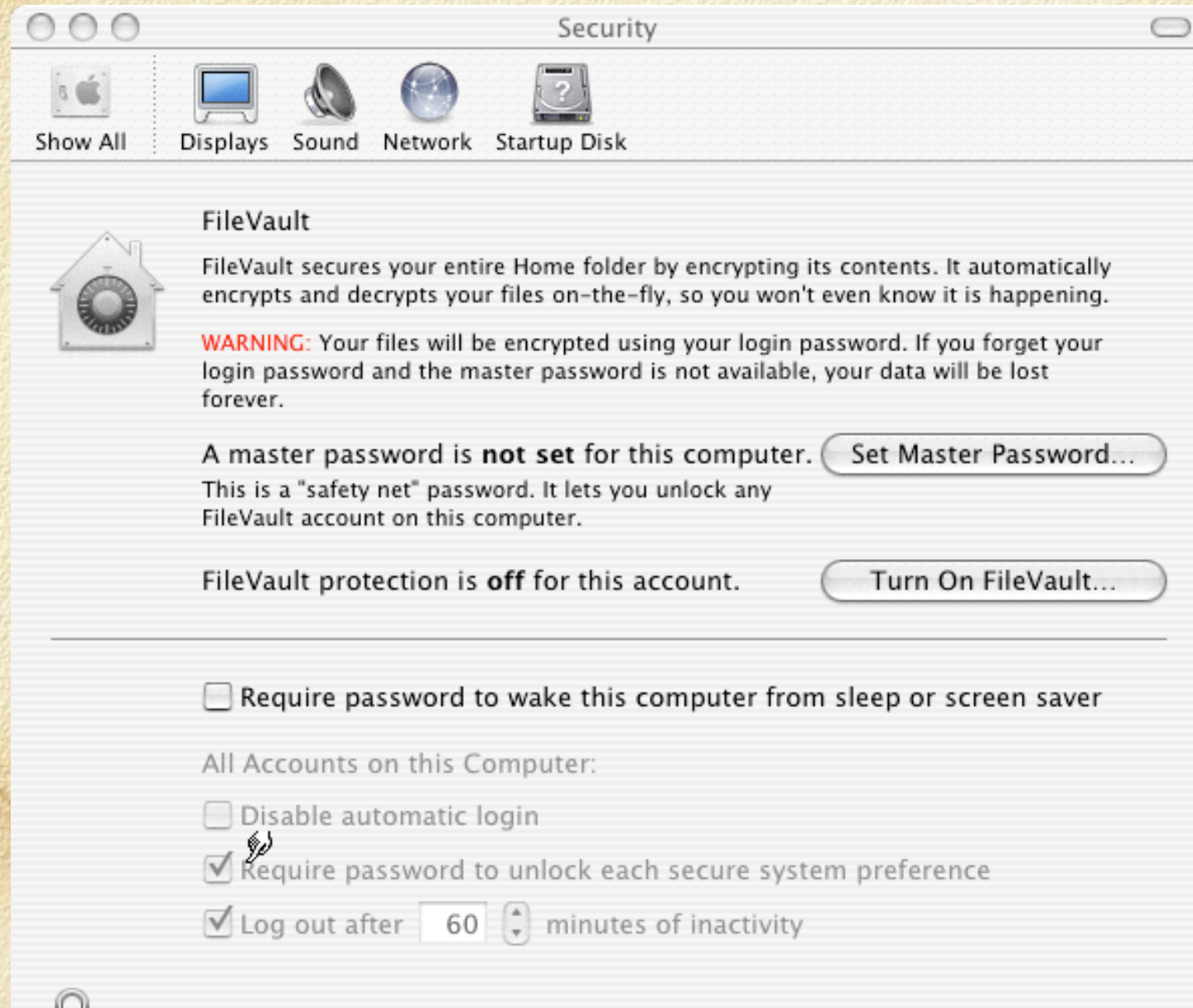


**Mount Point :** /  
**Format :** Mac OS Extended  
**Permissions Enabled :** Yes  
**Number of Folders :** 39,665

**Capacity :** 12.8 GB (13,700,951,040 Bytes)  
**Available :** 6.6 GB (7,044,128,768 Bytes)  
**Used :** 6.2 GB (6,655,729,664 Bytes)  
**Number of Files :** 154,827



# Step 2: Secure the install





## Open Firmware Console ([back to top](#))

To enter the Open Firmware console, hold down the Command, Option, O, F keys on startup of the Macintosh:

The following screen will appear:

```
Apple PowerMac3,4 4.2.8f1 BootROM built on 10/11/01 at 14:12:47
Copyright 1994-2001 Apple Computer, Inc.
All Rights Reserved.
```

```
Welcome to Open Firmware, the system time and date is: 15:49:05 12/15/2001
```

```
To continue booting, type "mac-boot" and press return.
To shut down, type "shut-down" and press return
```

```
Release keys to continue!
```

```
ok
```

```
0 > _
```

## Setting Open Firmware Password ([back to top](#))

At the command prompt, type "password" and press the return key.

```
0 > password
```

You will be prompted to enter in the password. Enter the password, then press the return key. You will then be prompted to re-enter your password. Retype your password, and press return. This process verifies that that the first and second entries of passwords match.

```
Enter a new password: ****
Enter password again: ****
Password will be in place on the next boot! OK
0 > _
```

If the first and second entries of the password do not match, you will get the following error message:

```
Enter a new password: ****
Enter password again: ****
Password do not match! Nothing changed? OK
0 > _
```



## Setting Security Mode ([back to top](#))

Next, you must enable security and specify the level of security (i.e. security-mode). The "security-mode" can be set to one of three modes: "none", "command", or "full". The "none" mode effectively disables security. The "command" mode just restricts the commands that may be executed to "go" and "boot". Basically, Command mode allows you to startup with the default startup drive without the need to enter a password. In "full" mode, the machine is completely prohibited from booting until the password is entered.

To enable security and level, type "setenv security-mode" followed by the mode, either "none" (the default selection already in effect), "command", or "full". Most likely, you will want to setup security using the "command" security level, which will prevent users from starting up off portable drives or ejectable media, or using snag-keys like Command+S, and Command+V to startup in single-user or verbose mode.

```
setenv security-mode command
```

Then, to use security settings you need to restart the Mac. Type "reset-all" and press enter key.

```
reset-all
```



# Step 3: Install Software

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- ❑ Get the image just how you want it
- ❑ “No more, no less” rule
- ❑ Don’t worry about Symantec AV, do manual installs later
- ❑ Install OpenAFS last

[http://www.unc.edu/atn/dci/dci\\_components/afs/install/afs-macosX.html](http://www.unc.edu/atn/dci/dci_components/afs/install/afs-macosX.html)



## Step 4: Kerberos Installation/Config

- ❑ Install MIT Kerberos Extras and Alexei's kfm\_aklog plug-in
- ❑ Beware typos during the next steps!
- ❑ Follow bil's excellent advice here:  
[http://www.ibiblio.org/macsupport/kerberos/kerberos10\\_2.html](http://www.ibiblio.org/macsupport/kerberos/kerberos10_2.html)  
(applies to OS 10.2, but works fine for Panther)



## Edit Favorite Realms

### Favorite Realms:

CS.UNC.EDU

Add

Add All

Remove

Cancel

Done

### All Available Realms:

CS.UNC.EDU  
ISIS.UNC.EDU

### Kerberos

**Active User**

User: hays  
Realm: CS.UNC.EDU  
Time Remaining: Less than 10 hours

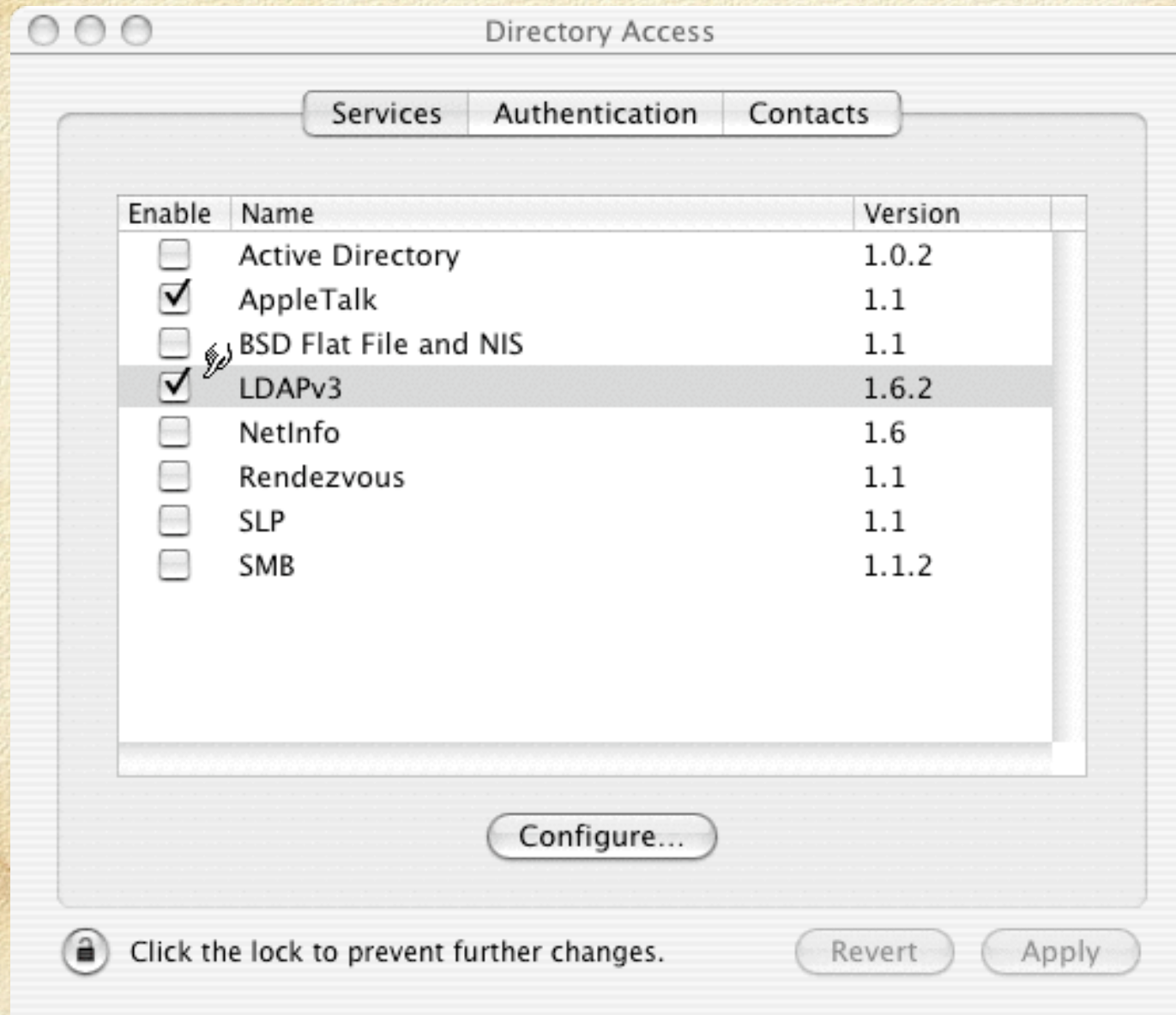
Renew Tickets... Destroy Tickets Change Password...

Ticket	Time Remaining
▼ (y4) hays@CS.UNC.EDU	
krbtgt.CS.UNC.EDU@CS.UNC.EDU	9:54
afs@CS.UNC.EDU	9:54

Make User Active Get Tickets...



# Step 5: LDAP Setup





Location:

Use DHCP-supplied LDAP Server

Hide Options

Enable	Configuration Name	Server Name or IP Address	LDAP Mappings	SSL
<input checked="" type="checkbox"/>	OnyenDB	onyendb.unc.edu	<input type="text" value="RFC 2307 (Unix)"/>	<input type="checkbox"/>

For search string, enter `ou=onyens,ou=ATN,o=UNC-CH,c=US`



- ❑ Restart the Mac
- ❑ Login with your Onyen/password
- ❑ Your local home folder should be your AFS home directory
- ❑ Congratulations!



twookie

local disks

- Network
- Smallwood
- afs
- Desktop
- twookie**
- Applications
- Documents
- Movies
- Music
- Pictures

Name	Date Modified	Size	Kind
bin	Sep 6, 1994, 12:41 AM	--	Fold
Desktop	Jan 15, 2004, 10:56 AM	--	Fold
Documents	Feb 6, 2004, 9:22 AM	--	Fold
Joe Pics	Dec 30, 2003, 5:38 PM	--	Fold
Library	Jan 29, 2004, 11:05 AM	--	Fold
mail	Dec 18, 1997, 5:56 PM	--	Fold
Mail	Sep 22, 1995, 2:41 PM	--	Fold
Module 5	Sep 27, 2003, 12:53 PM	--	Fold
Movies	Jan 15, 2004, 10:56 AM	--	Fold
Music	Jan 29, 2004, 11:05 AM	--	Fold
News	Sep 22, 1995, 2:41 PM	--	Fold
OldFiles	Mar 16, 2004, 1:16 PM	--	Fold
orgs	Mar 16, 2004, 1:17 PM	--	Fold
Pictures	Jan 15, 2004, 10:56 AM	--	Fold
private	Sep 6, 1994, 12:41 AM	--	Fold
public	Aug 16, 2002, 11:42 AM	--	Fold
public_html	Dec 30, 2003, 5:14 PM	--	Fold

17 items, 15.25 GB available



## Step 6: Using CCC to Make a Clone

- ❑ Check out [www.bombich.com](http://www.bombich.com)!
- ❑ Download CarbonCopyCloner and NetRestore
- ❑ Unpack the dmg files, drag to a USB key and plug it into the master image machine





# Carbon Copy Cloner

© Mike Bombich, 2002

[Download v. 2.3 Now! \(Mac OS 10.2.x, 10.3+\)](#)

[Download CCC v. 1.3.1 \(Mac OS 10.1.2 thru 10.1.5\)](#)

## [Introducing Carbon Copy Cloner 2.3!](#)

Have you ever wanted a simple, complete, bootable backup of your hard drive? Have you ever wanted to upgrade to a larger hard drive with minimal hassle and without reinstalling your OS and all of your applications? Have you ever wanted to move your entire Mac OS X installation to a new computer? Then CCC is the tool for you! CCC makes these tasks simple by harnessing the Unix power built into Mac OS X. In addition to the features that CCC has provided in the past, version 2 offers synchronization of the source and target as well as scheduled backup tasks. Now you can setup a regular backup regimen that occurs in the background, even if you are not logged in! Version 2 also offers enhancements for lab administrators, including the option to run pre and post-flight shell scripts, the ability to modify the list of items to be removed at the end of a clone, and the ability to create a disk image on the fly. One of CCC 2's most exciting features is the ability to create a NetBoot image from a fully customized Mac OS X installation.



# Cloning Console



Use this utility to clone/synchronize one disk to another disk. If you do not want to copy all the items listed, select the unwanted items and click on the delete button. Click on the padlock to authenticate (enables the clone and scheduler buttons).

## Source Disk

Macintosh HD

## Target Disk

Select a target

Preferences...

Scheduler...

Log...

Help...

Clone

## Items to be copied

.DS\_Store  
.hidden  
.hotfiles.btree  
Applications  
Desktop DB  
Desktop DF  
Library  
System  
Users  
bin  
mach\_kernel  
private  
sbin  
usr

## Source Disk options

Repair permissions before cloning

## Target Disk options

Delete directories before overwriting

Make bootable

Launch Disk Utility

## Synchronization options

psync is not installed  
Click here to Install

Advanced settings...

## Disk image options

Create a disk image on target

Encrypt the disk image

Make it a NetBoot set

## ASR options

Prepare for Apple Software Restore

Run Setup Assistant after restore

Prompt to remove users

Format:

Read-only

Read-only compressed

Segment size (MB)

Cancel

Save



- ❑ Be patient, the clone may take 30-40 minutes to complete
- ❑ The disk image created will be ready for use with NetRestore (based on Apple Software Restore--ASR)
- ❑ The image will be compressed and can easily be copied to a firewire drive such as an iPod
- ❑ Experiment with CCC settings! See what works best for your environment

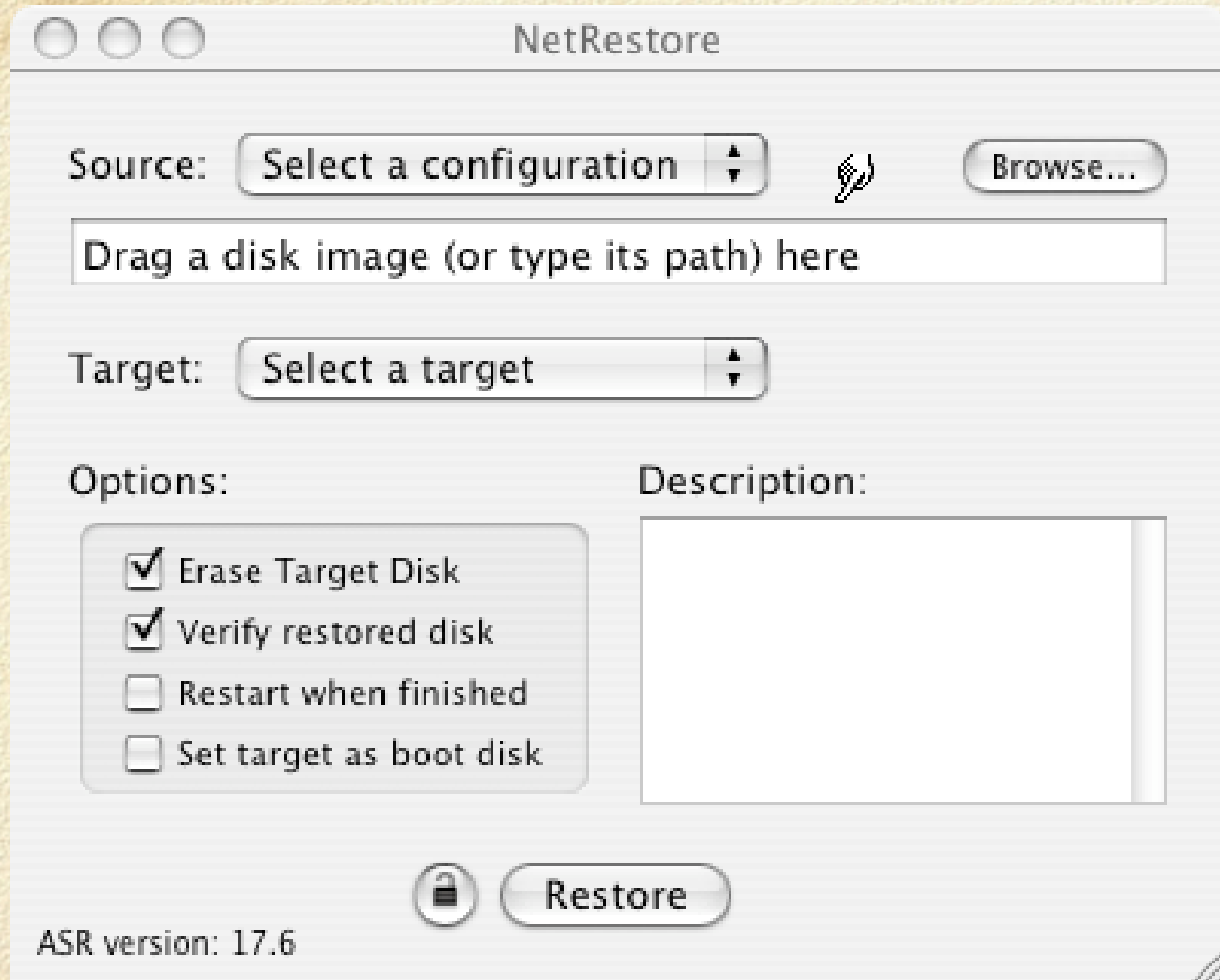


## Step 7: Deploying with NetRestore

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- ❑ Do a base install (no frills) of OS X on whichever firewire device you'll use for NetRestore
- ❑ Boot from the firewire drive
- ❑ Launch NetRestore and deploy the .asr image







# Issues to Consider

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- ❑ This method does not use a local home folder
- ❑ Saving digital video files to AFS home drive is often not feasible
- ❑ AdminLauncher allows for customized Desktop and app control; keeps Dock prefs in hands of users



# Additional Resources

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- ❑ <http://www.macoslabs.org>
- ❑ <http://clc.its.psu.edu/Labs/Mac/Resources/>
- ❑ <http://www.bombich.com>
- ❑ <http://www.macosxhints.com>