



Deep Freeze Mac With ARD Integration - Retaining User Data

TECHNICAL WHITEPAPER

Last modified: April, 2006

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Introduction

This white paper explains how to map entire home directories, user sub-directories, or web browser bookmark files in order to save and maintain user data on a computer protected by Deep Freeze.

On a Frozen workstation, the entire contents of a Frozen hard drive are refreshed following a restart. In order to allow changed data to persist across restarts, the appropriate files or folders need to be mapped to a Thawed location or ThawSpace; this can be done using an alias or symbolic link.

The principles used here can be used to map any directory or file to a Thawed (unprotected by Deep Freeze) area or ThawSpace.

Instruction Guidelines

For these instructions, the name of the user's home directory is shown as <username>. Substitute your own username in these folders.

The Thawed partition is shown as *Thawed HD* and ThawSpace is shown as *ThawSpace*.

If there are multiple Frozen users, give each user a sub-folder within the Thawed partition, or within a global ThawSpace. The procedure must be performed for each user, or a user-specific ThawSpace can be used.

Several different Web browsers are available for Mac OS X. While there are unique procedures for each browser, the general set of instructions for creating a Thawed bookmark location is the same. They are as follows:

1. Restart the computer in Thawed mode.
2. Log on as <username> and perform the procedure outlined below for the appropriate browser.
3. Restart the computer in Frozen mode.
4. Log on as <username>.
5. Start the appropriate browser, save a bookmark, and restart.
6. Log back in as <username> and verify that the bookmark is still there.

Creating Symbolic Links

A symbolic link is similar to a traditional Mac OS X alias, but it points back to the original file in a way that every Unix application can understand. If the original file is moved, the symbolic link is broken and must be recreated.

A symbolic link can be created manually using the Terminal. Apple provides no way from within the Finder to create a symbolic link. However, a freeware utility called Symbolic Linker can be downloaded from <http://seiryu.home.comcast.net/symboliclinker.html>. It allows symbolic links to be created in the Finder.



For each browser that needs symbolic links, it is assumed that Symbolic Linker has been installed.

Faronics does not make or provide support for Symbolic Linker in any way.

After downloading Symbolic Linker, follow the installation instructions contained in the *read me* file. When the installation is complete, a new item is added to the *Contextual Menu* called *Make Symbolic Link*.

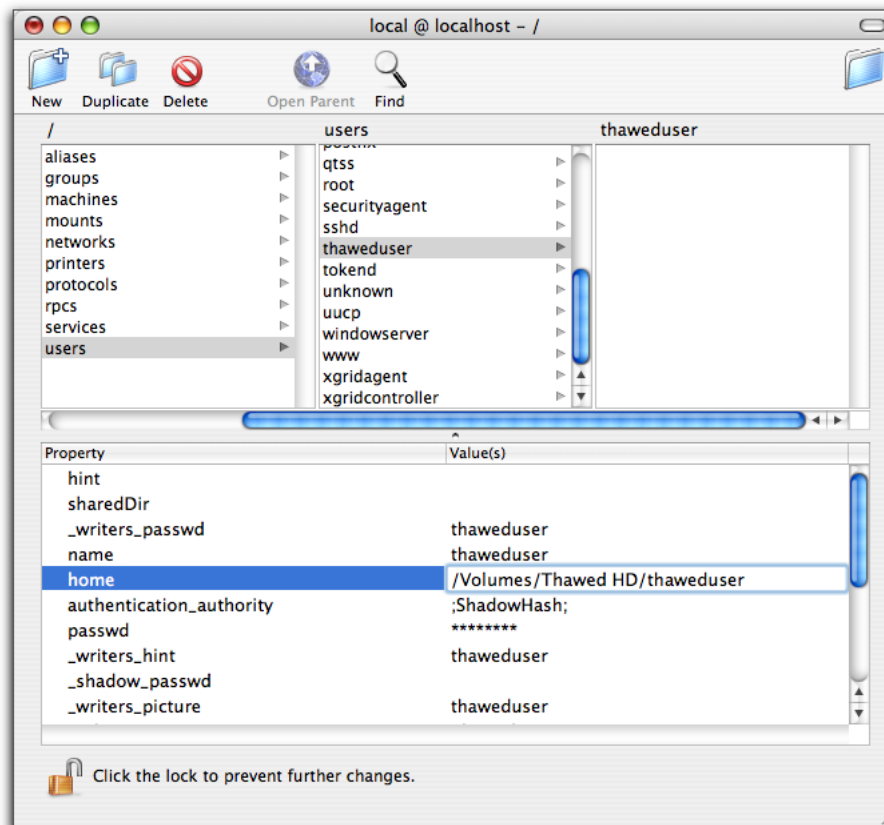
Creating a Symbolic Link using Symbolic Linker

1. Select the file or folder you want to make a symbolic link to.
2. *CTRL*-click or right-click on the file or folder to bring up the Contextual Menu.
3. Select *Make Symbolic Link*.
The symbolic link is created and has *.symlink* as a file extension.
4. Drag the symbolic link to the desired folder.
5. Delete *symlink*, including the space preceding the file extension, from the file name.
6. If a copy is left in the original location after dragging the symbolic link to the appropriate folder, move it to the trash.

Mapping a User's Home Directory

Deep Freeze Mac ARD completely restores a Frozen user's home directory, along with the rest of the hard drive each time the computer is restarted. In order to retain changes to a user's entire home directory, the home directory must be mapped onto a Thawed partition (a second partition or physical hard drive that is unprotected by Deep Freeze). This can be done using the steps below (with a user named *thaweduser* as an example):

1. Restart the computer in Thawed mode.
2. Log in as root and copy `/Users/thaweduser` to a Thawed partition.
3. Launch *NetInfo Manager* from `/Applications/Utilities` and authenticate.
4. Select `users/thaweduser` and change the *home* property to the Thawed partition's path.
5. Quit *NetInfo Manager*, accepting all changes.
6. Optionally delete the original `/Users/thaweduser` directory.
7. Log in as *thaweduser* while the computer is in Frozen mode. All changes made in the home directory are retained across restarts.



In this example, the *thaweduser* home directory has been moved to a Thawed partition; the home directory has been changed to `/Volumes/Thawed HD/thaweduser`.



A user's home directory cannot be mapped to a ThawSpace.

Mapping User's Sub-directories

Deep Freeze Mac ARD completely restores a Frozen user's home directory at the event specified in the Deep Freeze Controller. However, there are times when only a partial restoration may be desirable.

For example, a student in a media lab may need to create new projects in iMovie. Permanent changes can be made and saved in the *Thawed HD* folder or *ThawSpace*, but this requires the student to specify a different directory than the default when creating a project in iMovie. The use of aliases allows the *Movies* folder to be automatically mapped to *Thawed HD* or *ThawSpace* seamlessly, allowing the student to save iMovie projects normally and have them retained permanently.

The method described here can be applied to any folder in the user's home directory, including *Movies*, *Music*, and *Pictures* for use with iMovie, iTunes, and iPhoto respectively. *Movies* and iMovie are used in the example provided. The permanent storage location used in the example is *Thawed HD / ThawSpace*, but this can be changed to any preferred directory, including a new directory at the root level of the hard drive.

As long as there is a folder called *Movies* in the current user's home directory, iMovie uses that folder as the default location to save new projects—even if this folder is an alias that points elsewhere. Using this knowledge, *Movies* can easily be mapped to *Thawed HD* or *ThawSpace* by following these steps:

1. Restart the computer in Thawed mode.
2. Log on as the user that the mapping is being changed for (*Student* in this example). Authentication is needed to allow changes to the user.
The Frozen user must have read and write access to any new directory that is used.
3. Locate the *Users > Student > Movies* folder and drag it into the appropriate *Thawed HD / ThawSpace*.
4. Highlight *Thawed HD / ThawSpace > Movies* and choose *File > Make Alias* from the Finder's menu.
A new file appears called *Movies alias*.
5. After deleting the original *Movies* folder, drag *Movies alias* into *Users > Student* and rename it *Movies*.
The original *Movies alias* folder must also be deleted from the *Thawed HD / ThawSpace > Movies* folder.
6. Open iMovie and create a new project in the default location. Name it *DFTestMovie*.
7. Close iMovie and navigate to *Thawed HD / ThawSpace > Movies*. There should be a new project file there called *DFTestMovie*.
8. Log in to the Deep Freeze Controller and restart the workstation in a Frozen state.

If multiple users on the same computer are having the mappings changed to the same target folder, the above must be performed for each user while the computer is Thawed.

Internet Explorer V5.2.3

Internet Explorer's Bookmarks are stored in the file *Favorites.html*. This file is located at: */Users/<username>/Library/Preferences/Explorer*.

This browser requires using an alias to move the folder to a Thawed partition.

Creating an Alias in Internet Explorer V5.2.3

1. Open the */Users/<username>/Library/Preferences/Explorer* folder.
2. Open *Thawed HD* in another window.
3. Drag the *Favorites.html* file to the Thawed partition, *Thawed HD*.
4. Holding down the Option and Command Keys, drag *Favorites.html* back to */Users/<username>/Library/Preferences/Explorer*.

This creates an alias in the location where Internet Explorer looks for this file

Safari 2.0.3 (417.9.2)

Safari's Bookmarks are stored in the file *bookmarks.plist*. This file is located at: */Users/<username>/Library/Safari*.

The whole *Safari* folder must be moved to the Thawed partition.

This browser requires using a symbolic link to move the folder to a Thawed partition.

Creating a Symbolic Link in Safari

1. Open the */Users/<username>/Library* folder.
2. Open *Thawed HD* in another window.
3. Drag the *Safari* Folder to the Thawed partition, *Thawed HD*.
4. CTRL-click the *Safari* folder to bring up the *Contextual Menu*. Select *Make Symbolic Link*.
5. Drag the *Safari symlink* folder from *Thawed HD* to */Users/<username>/Library*.
6. Delete *symlink*, including the space preceding the file extension, from the folder name.

Firefox V1.5

Firefox's bookmarks are stored in the file *bookmarks.html*. This file is located at: */Users/<Username>/Library/Application Support/Firefox/Profiles /<name>.default*.

The default folder is randomly named, but there is only one *<name>.default* folder in the *Profiles* folder.

This browser requires using an alias to move the file to a Thawed partition.

Creating an Alias in Firefox V1.5

1. Open the */Users/<username>/Library/Application Support/Firefox/Profiles* folder.
2. Open *Thawed HD* in another window.
3. Drag the *<name>.default* folder to the Thawed partition, *Thawed HD*.
4. Holding down the Option and Command Keys, drag *Favorites.html* back to */Users/<username>/Library/Application Support/Firefox/Profiles*.

This puts an alias folder where Firefox looks for this file.

iCab V3.0b352

iCab's bookmarks are stored in the file *Hotlist.html*.

This file is located at: */Users/<username>/Library/Preferences/iCab Preferences*.

This browser requires using an alias to move the file to a Thawed partition.

Creating an Alias in iCab V3.0b352

1. Open the */Users/<username>/Library/Preferences/iCab Preferences* folder.
2. Open *Thawed HD* in another window.
3. Move the *Hotlist.html* file, to the Thawed partition, *Thawed HD*.
4. Holding down the Option and Command Keys, drag *Hotlist.html* back to */Users/<username>/Library/Preferences/iCab Preferences*.

This puts an alias file where iCab expects to find it.

Mozilla 1.7.12

Mozilla's bookmarks are stored in a file called *bookmarks.html*.

This file is located at: */Users/<username>/Library/Mozilla/Profiles/default<name>.slt*.

The *.slt* folder is given a randomly generated name when the profile is first created.

This browser requires using an alias to move the file to a Thawed partition.

Creating an Alias in Mozilla 1.7.12

1. Open the */Users/<username>/Library/Mozilla/Profiles/default/<name>.slt* folder.
2. Open *Thawed HD* in another window.
3. Move the *bookmarks.html* file to the Thawed partition, *Thawed HD*.
4. Holding down the Option and Command Keys, drag *Favorites.html* back to */Users/<username>/Library/Mozilla/Profiles/default/<name>.slt* folder.

This puts an alias in the location where Mozilla expects to find it.

Netscape 7.2

See *Mozilla 1.7.12* for instructions on moving Netscape's bookmarks to a Thawed folder.

OmniWeb 5.1 (v5.1.3)

OmniWeb's bookmark's are stored in a file called *Favorites.html*.

This file is located at */Users/<username>/Library/Application Support/OmniWeb 5*.

This browser requires using an alias to move the file to a Thawed partition.

Creating an Alias in OmniWeb 5.1 (v5.1.3)

1. Open the `/Users/<username>/Library/Application Support/OmniWeb 5` folder.
2. Open *Thawed HD* in another window.
3. Drag the *Favorites.html* file to the Thawed partition, *Thawed HD*.
4. Holding down the Option and Command Keys, drag *Favorites.html* back to `/Users/<username>/Library/Application Support/OmniWeb 5`.

This puts an alias in the location where OmniWeb expects to find it.

Opera 8.51

Opera's Bookmarks are stored in a file called *Bookmarks*.

This file is located at: `/Users/<username>/Library/Preferences/Opera Preferences`.

The whole *Opera Preferences* folder must be moved to the Thawed partition.

This browser requires using a symbolic link to move the file to a Thawed location.

Creating a Symbolic Link in Opera 8.51

1. Open the `/Users/<username>/Library/Preferences` folder.
2. Open *Thawed HD* in another window.
3. Drag the *Opera Preferences* folder to the Thawed partition, *Thawed HD*.
4. CTRL-click the *Opera Preferences* folder to bring up the *Contextual Menu*. Select *Make Symbolic Link*.
5. Drag the *Opera Preferences symlink* folder from *Thawed HD* to `/Users/<username>/Library/Preferences`.
6. Delete *symlink*, including the space preceding the file extension, from the folder name.

Camino V1.0b1

Camino's Bookmark's are stored in a file called *bookmarks.html*.

This file is located at: `/Users/<username>/Library/Application Support/Camino`.

The whole *Camino* folder must be moved to the Thawed partition.

This browser requires using a symbolic link to move the file to a Thawed location.

Creating a Symbolic Link in Camino V1.0b1

1. Open the `/Users/<username>/Library/Application Support` folder.
2. Open *Thawed HD* in another window.
3. Drag the *Camino* folder to the Thawed partition, *Thawed HD*.
4. CTRL-click the *Camino* folder to bring up the *Contextual Menu*. Select *Make Symbolic Link*.
5. Drag the *Camino symlink* file from *Thawed HD* to the `/Users/<username>/Library/Application Support` folder.
6. Delete the *bookmark.html* symlink file from *Thawed HD*.
7. Delete *symlink*, including the space preceding the file extension, from the folder name.