

Faronics

DEEPFREEZE™

ABSOLUTE Workstation Integrity

Deep Freeze Mac - Best Practices

TECHNICAL WHITEPAPER

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Introduction

This document was created to give administrators a set of guidelines to follow to ensure Deep Freeze Mac is set up and deployed in the most ideal way.

Implementation

This section explains the recommended methods to initially configure your Deep Freeze Mac environment and deploy it to your clients. This section also explains additional configuration settings recommended by Faronics to secure the machines.

System Requirements

Deep Freeze Mac requires Mac OS X Panther v10.3, Tiger v10.4., or Leopard v10.5.

Deep Freeze Mac is a Universal application (Intel and PPC compatible).

Apple Remote Desktop integration requires ARD version 2.2 or later.

A minimum of 256 MB RAM is recommended.

Installation Configuration

The Deep Freeze Assistant allows for the creation of pre-configured installer packages that contain settings that are applied when deployed. These include, but are not limited to: usernames/passwords, Maintenance Schedule settings, and ThawSpaces. These packages can then be deployed manually or via ARD (or any other software deployment tool) so that different Deep Freeze settings can easily be deployed based on the requirements of the labs or environment.

The Deep Freeze Assistant is included on the Deep Freeze Mac disk image. One important item to remember is to set your installation boot state to Boot Thawed (at least for one restart) if you are pre-configuring ThawSpaces for your installer package. Deep Freeze Mac needs to be in a Thawed state to create the ThawSpaces after installation.

Deep Freeze Assistant can also directly install Deep Freeze specific Saved Tasks into the ARD console on a chosen Mac. ARD tasks are not part of the customized Deep Freeze installation package. ARD must not be running in order for the task installation to be successful.

Installation Deployment

Before Installation: It is highly recommended that a Verify Disk (via Disk Utility or similar utility) be run on the drive on which Deep Freeze Mac is to be installed. This will test the disk to see if any further repairs are necessary. A faulty or fragmented drive may cause Deep Freeze to install improperly, which may compromise the system, so a defrag is recommended. Running a Repair Disk Permissions is also recommended. The cleaner the system the better!

Installing Remotely

To install Deep Freeze Mac via Apple Remote Desktop, select *Manage > Install Packages...* from the Install Packages window. You can choose the desired Deep Freeze installer package and the computers (or groups of computers) to which you want Deep Freeze Mac deployed. This deployment can be scheduled through ARD for automated execution.

Installing Manually

To install Deep Freeze on a single computer, double-click the *DFX Version.pkg* file and follow the steps presented. Click *Install* and Deep Freeze is installed on the computer. A restart is required to complete the installation.

Upon completion of a successful installation and after a restart, Deep Freeze is automatically configured to put all drives and partitions on the into a Frozen state. The drives and volumes that are to be put in a Thawed state must be specified using the Deep Freeze Controller or via Apple Remote Desktop.

NOTE: It is recommended that all previous versions of Deep Freeze Mac OS X be uninstalled before installing a newer version.

Installation Order With Other Products

In order to properly install environments that contain both Deep Freeze Mac and any other product, either of the following two methods can be used:

- Install the other program(s) first and then install Deep Freeze Mac. This ensures that the additional programs are part of the Frozen system.
- Install Deep Freeze Mac first in a Thawed state, then install the other program(s). This ensures that the additional programs are not deleted when the computer(s) is rebooted. The computer then needs to be set back into a Frozen state.

Securing Your System

Apple provides an application called Open Firmware Password that prevents users from pressing the keys necessary to boot into single-user mode or boot from an alternative volume at start up. To download the Open Firmware Password application, refer to Apple's instructions at:

<http://www.apple.com/support/downloads/openfirmwarepassword.html>

For Mac OS X 10.4 or later, the updated version of this application can be copied from the software installation disc, located at *Applications > Utilities* on the disk. Please note that Intel-based Macintosh computers can be protected by firmware passwords as well by using Extended Firmware Interface (EFI) technology.

Retaining User Data

In an environment where the user data needs to be stored on the local machine, it is possible to set up an area where the user data can be stored. This involves redirecting data to a Thawed location, either a Global or Individual ThawSpace or a Thawed partition. This re-directing, or *Mapping*, can be done directly in the Deep Freeze Mac user interface on the *Mapping* tab. Refer to the Deep Freeze Mac documentation for more information.

Managing Deep Freeze Mac Workstations

Now that Deep Freeze Mac has been deployed, the following information provides recommendations for managing a Deep Freeze Mac deployment.

Apple Remote Desktop Integration

As mentioned above, the Deep Freeze Assistant can install tasks for use with Apple Remote Desktop. They appear in their own Deep Freeze folder on the ARD sidebar. These tasks can be used as supplied or as a starting point for controlling Deep Freeze with ARD. Each task mirrors a Deep Freeze Controller command, although you can also remotely request the Deep Freeze status from any Mac via ARD.

To use the tasks, they must be edited to add site-specific information, eg. usernames and passwords. For ARD to perform the tasks, the target computer(s) for the task must be specified, the target computer(s) must have Deep Freeze installed and a user on the target computer must be specified to run the command.

To target computers with a particular ARD task, select the desired task and drag the preferred workstations or group of workstations into the lower portion of the task window. The number of computers assigned to a specific task appears at the bottom of the window

As with deploying the Deep Freeze Mac installer package, any Deep Freeze task can be scheduled through ARD for automated execution.

LANDesk Integration

Deep Freeze Mac also integrates (via the Deep Freeze Mac plug-in for LANDesk) with the LANDesk Management Suite Console, where Deep Freeze tasks can be created, scheduled, and deployed. The plug-in supports LDMS v8.6.1 and v8.7, Deep Freeze Enterprise v6.0 and higher, and Deep Freeze Mac v3.1 and higher. This plug-in version will not work with the LANDesk Management Web Console.

For full instructions on managing Deep Freeze Mac through the LANDesk console, refer to the *Deep Freeze Mac Plug-in to LANDesk* documentation.

Command Line Control Integration

The Deep Freeze Mac-specific ARD tasks can be run (even if ARD is not employed) with several different third-party enterprise management tools and/or central management solutions; this includes executing commands in Terminal while connected to a remote workstation via SSH.

Apple Software Updates

To automatically download and install Apple Software Updates, use the *Schedule* tab in the Deep Freeze Controller to set up an automatic Thawed period during which time the updates can be performed on the workstations.

During the scheduled maintenance, the *Lock Out User* option can be set so that the keyboard and mouse are disabled at the workstation, allowing for updates to only take place via the network without user interference.

ThawSpaces

The *ThawSpace* tab in the Deep Freeze Controller is used to create virtual Thawed partitions where documents and changes can be saved persistently on Frozen computers. Administrators can create a personal ThawSpace for each local user, or a global ThawSpace that all local users can share.

ThawSpaces can be added or deleted from within the tab using the *Add* and *Delete* buttons. A computer must be in a Thawed state to create or modify a ThawSpace, and a restart is required to enable any additions, modifications, or deletions made to ThawSpaces. ThawSpaces appear as removable media on the Desktop so files can be easily dragged to them for saving.

“Stealth” Mode

By using the *Boot Control* tab in the Deep Freeze Controller, an administrator has the option to show or hide the Deep Freeze menu bar icons (blue for Frozen, red for Thawed), as well as whether to show a badge of the Deep Freeze icon on any Frozen drives or volumes on the Mac. By choosing to hide these options, the administrator can effectively run in “stealth mode” so that users will be visually unaware the Deep Freeze is installed on the computer.

Upgrading

To check if the installed version of Deep Freeze Mac is the most current one, select *Help > Check For Updates*. A dialog appears, stating if your version is up to date or if there is a more current one available for download. It is recommended that all previous versions of Deep Freeze Mac OS X be uninstalled before installing a newer version.

Uninstalling

A machine must be in a Thawed state for the Uninstall option to be available via the *Uninstall* tab. If the machine is in a Frozen state, the *Uninstall* option is not available. If there are existing ThawSpaces on a machine, choose either to retain or delete them by selecting the preferred radio button.

The computer requires a restart and all Deep Freeze program components are permanently deleted during the uninstall process.