Faronics DEEPFREEZEMAC™

ABSOLUTE System Integrity

User Guide

Last modified: March 2020

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Preface

This user guide explains how to install, configure and use Deep Freeze Mac.

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Important Information

This section contains important information about your Faronics Product.

About Faronics

Faronics delivers market-leading solutions that help manage, simplify, and secure complex IT environments. Our products ensure 100% machine availability, and have dramatically impacted the day-to-day lives of thousands of information technology professionals. Fueled by a market-centric focus, Faronics' technology innovations benefit educational institutions, health care facilities, libraries, government organizations, and corporations.

Product Documentation

The following documents form the Deep Freeze Mac documentation set:

- Deep Freeze Mac User Guide — This document guides you how to use the product.

- Deep Freeze Mac Release Notes — This document lists the new features, bug fixes and known issues.

Product documentation is available at:
www.faronics.com/library.

About Apple Remote Desktop (ARD)

Apple Remote Desktop is Apple Computer's complete desktop management solution for Mac OS X. Faronics does not provide sales or technical support information for Apple Remote Desktop. More information regarding ARD can be found at http://www.apple.com/remotedesktop.

Technical Support

Every effort has been made to design this software for ease of use and to be problem free. If problems are encountered, contact Technical Support.

Web:

www.faronics.com

Technical Suport:

www.faronics.com/support

Definition of Terms

Term	Definition
Frozen	A state of Deep Freeze where any changes, whether malicious or intentional, are reversed on restart.
Thawed	A state of Deep Freeze where changes made to the computer are permanent and not reversed on restart.
ThawSpace	ThawSpace is a virtual partition that can be used to store programs, save files, or make permanent changes. All files stored in the ThawSpace are retained after a restart, even if the computer is Frozen. Since a ThawSpace is unprotected, it requires standard data protection such as backup and virus scan.
Deep Freeze Remote	Deep Freeze Remote is an application that allows you to manage Deep Freeze via Apple Remote Desktop (ARD).
Deep Freeze Tasks	Deep Freeze Tasks are pre-configured actions used to manage Deep Freeze via ARD.

Introduction

Faronics Deep Freeze helps eliminate computer damage and downtime by making computer configurations indestructible. Once Deep Freeze is installed on a computer, any changes made to the computer—regardless of whether they are accidental or malicious—are never permanent when the computer is in a *Frozen* state. Deep Freeze provides immediate immunity from many of the problems that plague computers today—inevitable configuration drift, accidental system misconfiguration, malicious software activity, and incidental system degradation.

> ⚠️ Deep Freeze protects the computers that are set to boot from the hard drive. Deep Freeze cannot protect the computers that are set to boot from an external drive (USB, FireWire or Thunderbolt) or from a hard drive where Deep Freeze is not installed.

Topics

Deep Freeze Overview

System Requirements

Deep Freeze Overview

Deep Freeze protects the boot drive (where the Operating System is installed) and optionally, other drives on your computer. Deep Freeze protects the installed programs when they are installed on the drive protected by Deep Freeze.

Deep Freeze also manages the user profiles on the computer. The user's home directory stores the preferences of the user. The user's home directory also stores data such as, documents, Internet Favorites, and music.

Deep Freeze has two states:

- Frozen — is the *protected* state where any changes, whether malicious or unintentional, are reversed on restart.
- Thawed — is the *unprotected* state where changes made to the computer are permanent and not reversed on restart.

> ⚠️ Deep Freeze protects the computers that are set to boot from the hard drive. Deep Freeze cannot protect the computers that are set to boot from an external drive (USB, FireWire or Thunderbolt) or from a hard drive where Deep Freeze is not installed.

System Requirements

System Requirements for Deep Freeze Mac:

Deep Freeze Mac 6.2 is supported on:

- OS X Mavericks 10.9.x
- OS X Yosemite 10.10.x
- OS X El Capitan 10.11.x
- macOS Sierra 10.12
- macOS High Sierra 10.13
- OS X Server Mavericks 10.9.x
- OS X Server Yosemite 10.10.x
- OS X Server El Capitan 10.11.x

Deep Freeze Mac 6.0 supported on:

- OS X Lion 10.7.5
- OS X Mountain Lion 10.8.x
- OS X Server Lion 10.7.5
- OS X Server Mountain Lion 10.8.x

Deep Freeze Mac is a universal binary application.

ARD integration requires Apple Remote Desktop version 3.2 or later.

A minimum of 256 MB RAM is recommended.

Supports HFS Plus file system. Encrypted volumes are not supported at this time.

Installing Deep Freeze

This chapter describes the installation process.

Topics

Installing Deep Freeze

Installation and configuration of Deep Freeze Mac requires administrative access.

Deep Freeze Mac is downloadable via the Internet from:

www.faronics.com

Complete the following steps to install Deep Freeze Mac:

1. Double-click *Deep Freeze Installer* to begin the installation process. The following screen is displayed:
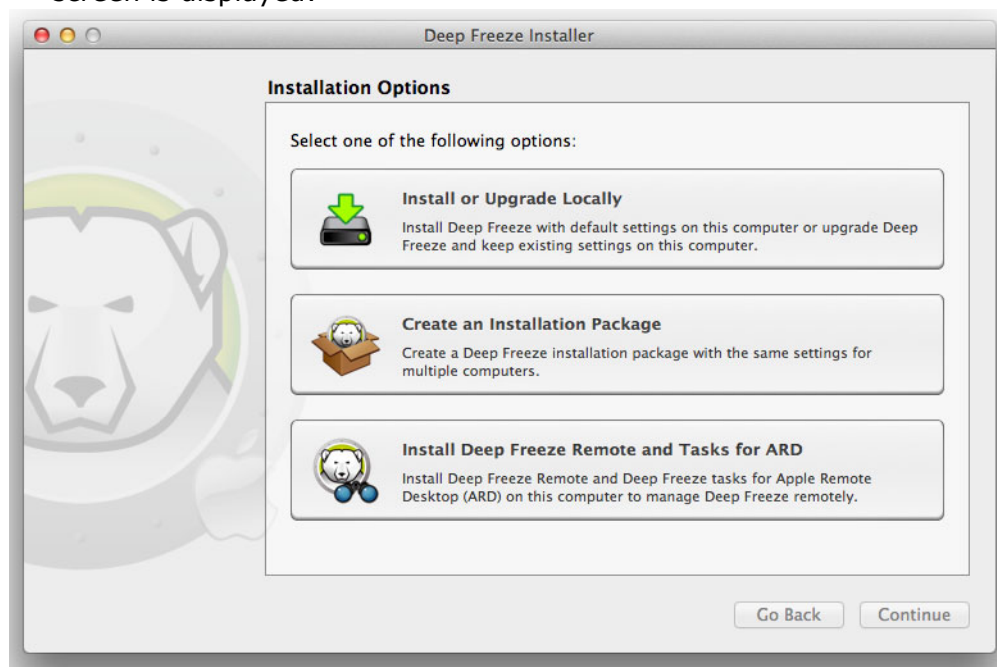
2. Select one of the following options:

*   Option1: *Install or Upgrade Locally* — to install Deep Freeze on the computer you are running the installer on.

*   Option 2: *Create an Installation Package* — to create an installation package with the same settings for multiple computers.

*   Option 3: *Install Deep Freeze Remote and Tasks for ARD*— to install Deep Freeze Remote and Deep Freeze tasks for Apple Remote Desktop on this computer and manage Deep Freeze computers remotely.

3. Click *Continue*.

Each of the above options is described separately in the following sections:

*   Option 1: Install or Upgrade Locally

*   Option 2: Create an Installation Package

*   Option 3: Install Deep Freeze Remote and Tasks for ARD

Option 1: Install or Upgrade Locally

This option is used to install Deep Freeze locally on the computer you are running the installer on. You can also upgrade the previous version of Deep Freeze installed locally with this option.

Complete the following steps after selecting *Install Locally* and clicking *Continue*.

1. The Deep Freeze installer is displayed.
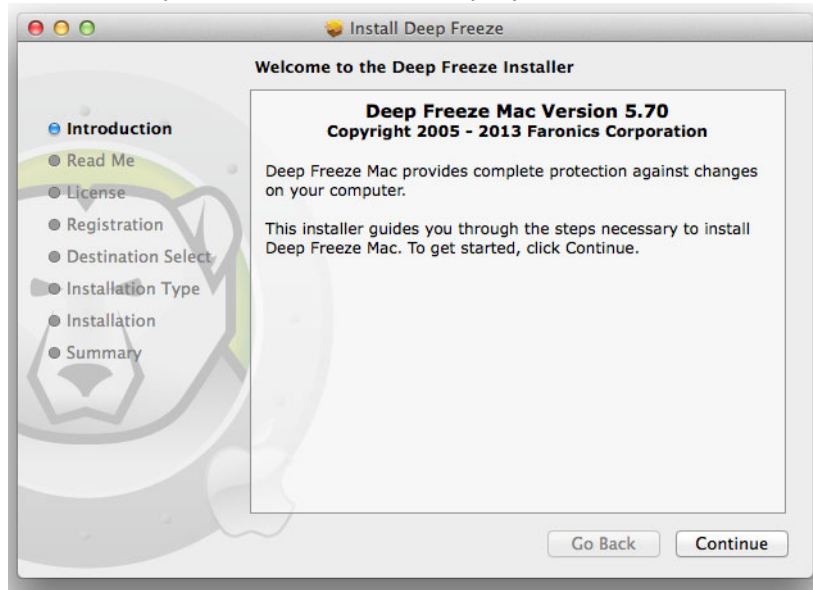
2. The security notice is displayed. Click *Continue*.
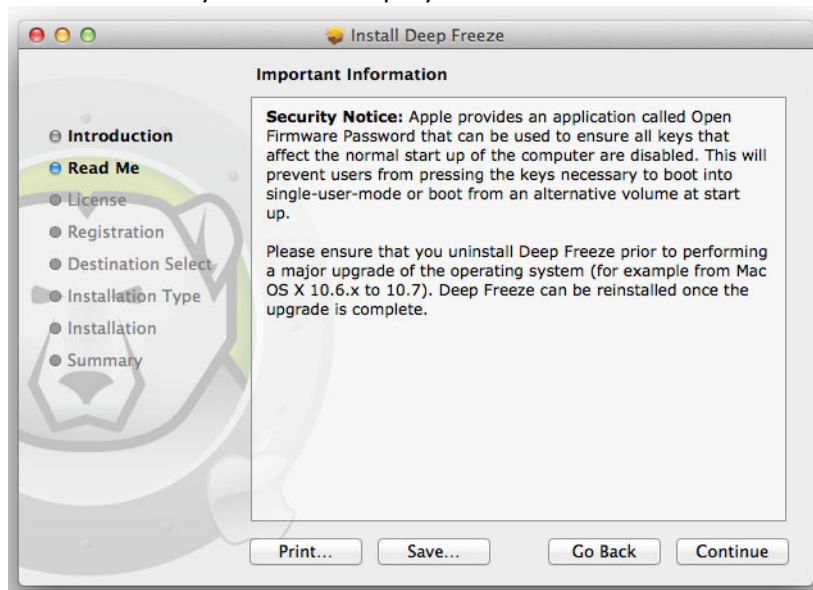
3. The License is displayed. Click *Continue* and *Accept*.
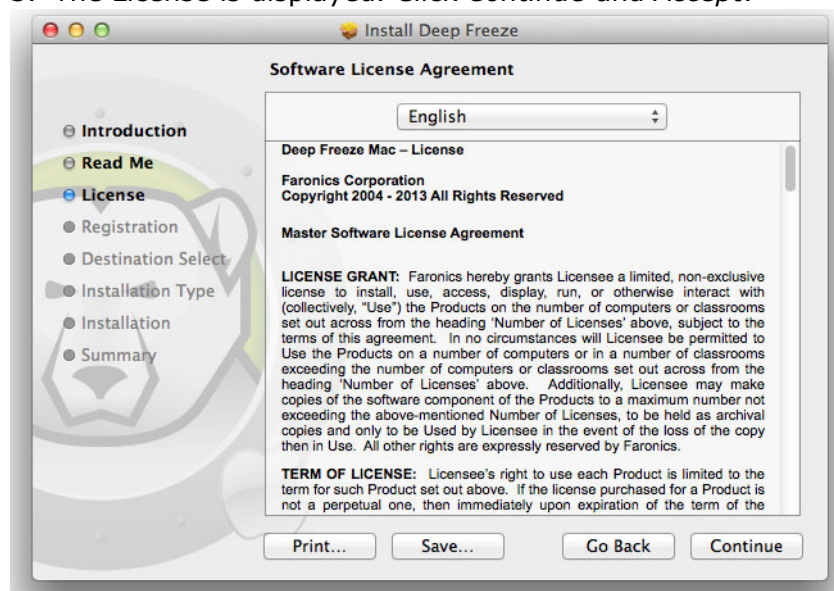
4. Enter a the License Key if you have one. Leave the License Key field blank to install Deep Freeze as an evaluation. Click *Continue*.

> ⚠️ After installation, login to Deep Freeze and select *DFXControl > Enter License Key*. Specify the License Key and click *OK*.
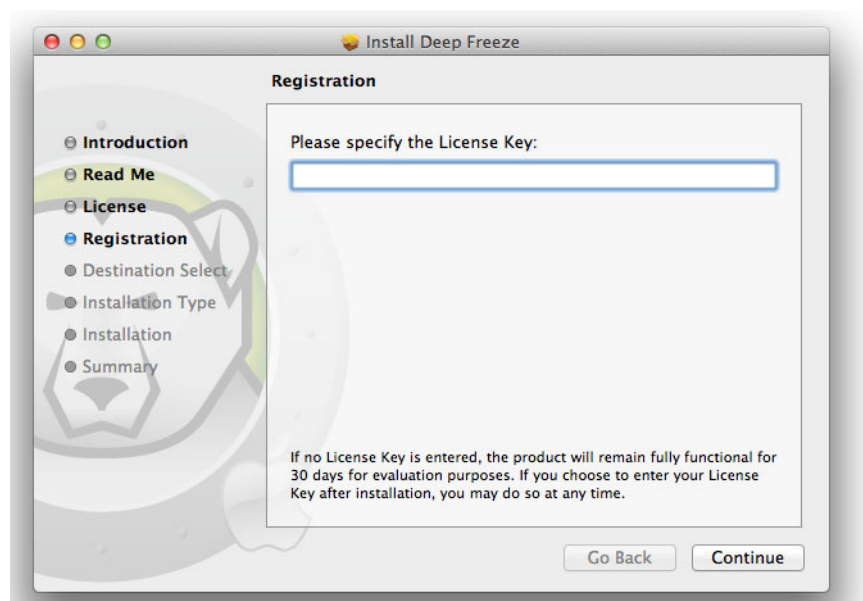
5. Click *Install*. Enter the system administrator's password and click *OK*.
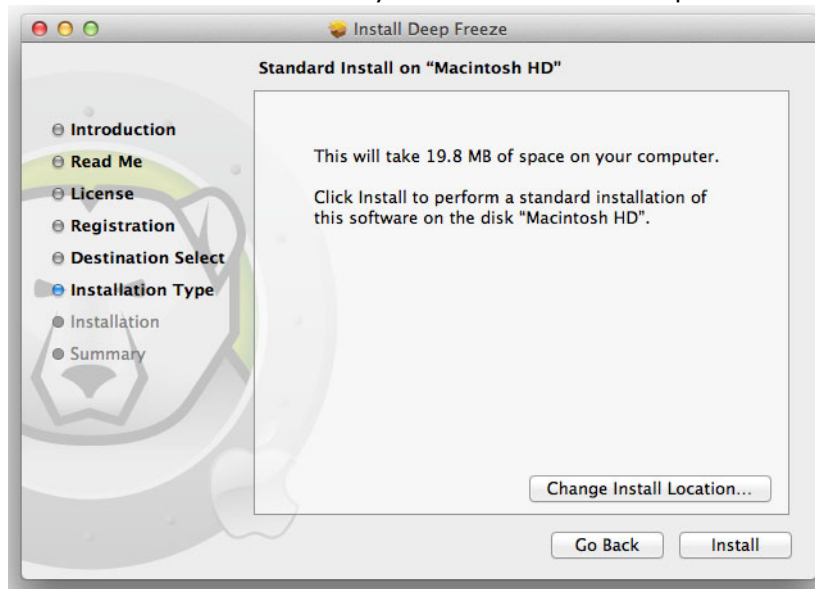
6. The final screen is displayed. Click *Restart*.
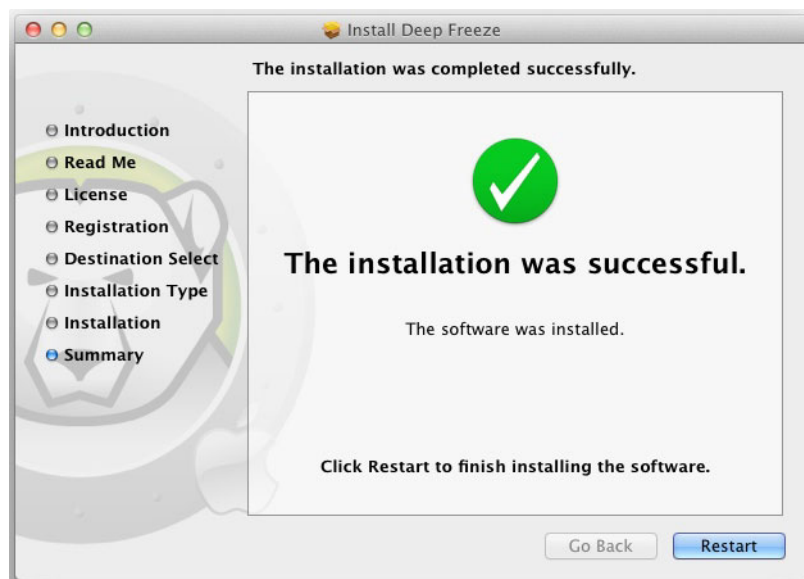
The computer restarts on clicking the *Restart* button.

The computer restarts in a Frozen state. To make changes to Deep Freeze configuration, click the Deep Freeze icon the menu and select *Login*. Alternatively, use the Ctrl + Opt + F6 key combination to start Deep Freeze. Another way to start Deep Freeze is to click the *DFXControl.app* located in */Applications/Faronics/*.

> ⚠️ If you are upgrading from a previous version of Deep Freeze, the existing users are retained. If this is a new installation of Deep Freeze, you will be prompted to create the Deep Freeze Administrator account before login. For more information about logging in to Deep Freeze, refer to Login.

⚠️ To make permanent changes to the computer when it is in a Frozen state, you must first restart Thawed from the Boot Control tab. For more information, refer to Boot Control Tab.

Option 2: Create an Installation Package

Select this option to create an installation package with the same settings for multiple computers.

> ⚠️ Gatekeeper is a security feature in OS X Mountain Lion that can be configured in the System Preferences. Since the Deep Freeze custom installation package is not digitally signed by Faronics, it may be blocked by Gatekeeper. To override Gatekeeper, use control-click to open the Deep Freeze custom installation package.

Complete the following steps after selecting *Create an Installation Package* and clicking *Continue*.

1. The following screen is displayed. There are two options:

- Option A: *Create an Upgrade Installer*: Select *Skip customization and create an installer to upgrade Deep Freeze* to create an upgrade installer. This will upgrade Deep Freeze with the existing settings.

- Option B: *Customize the Installer*: Do not select *Skip customization and create an installer to upgrade Deep Freeze.*

  Click *Continue*. (For this example, we have selected Option B.)
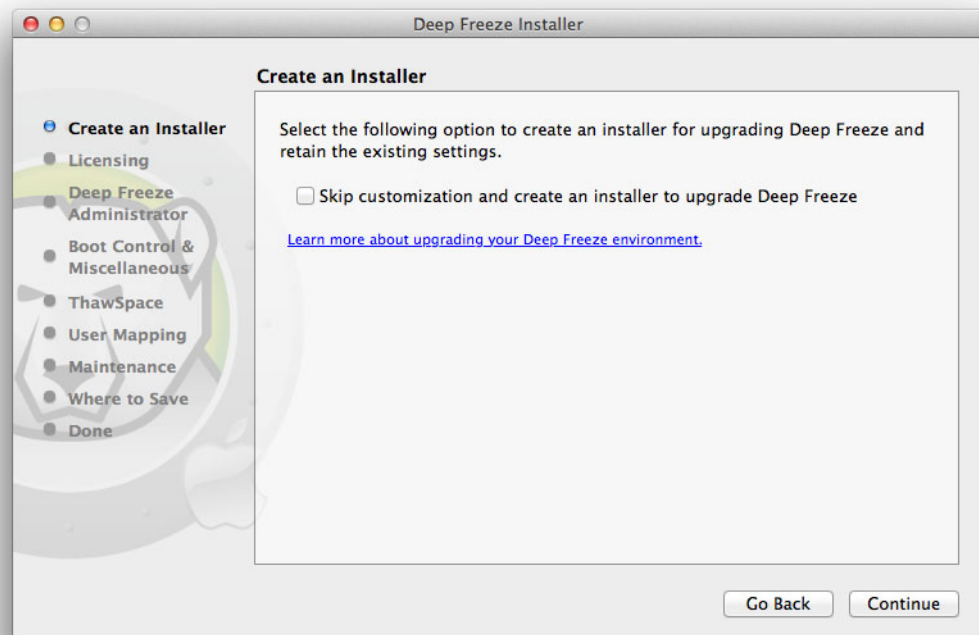
2. Select *Use Evaluation* or *Enter a License Key* to specify a valid license key. Click *Continue*.
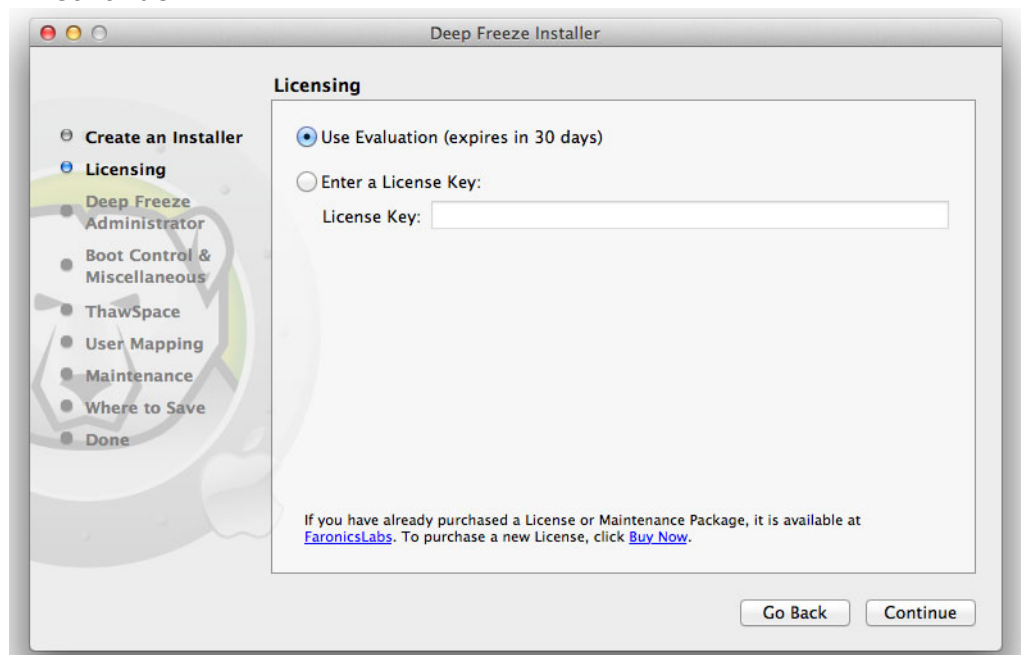
3. Create an Administrator for Deep Freeze. Specify a *Deep Freeze User Name*, *Password* and verify the password. Click *Continue*.
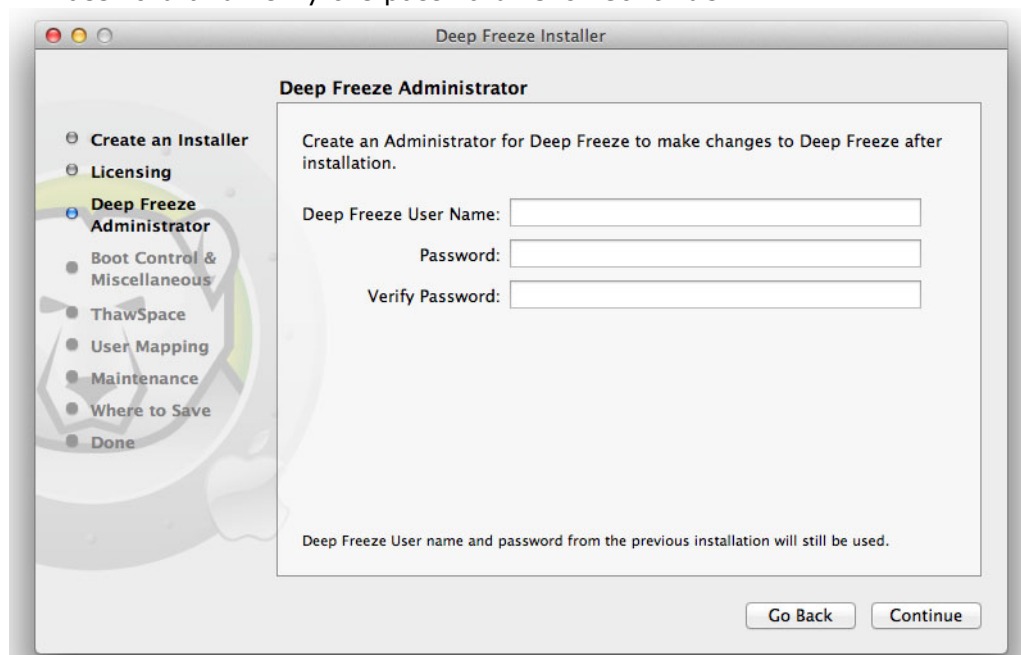
4. Create additional users (optional). For this example, we have selected *No, just continue*.

5. Select the following settings and click *Continue*.
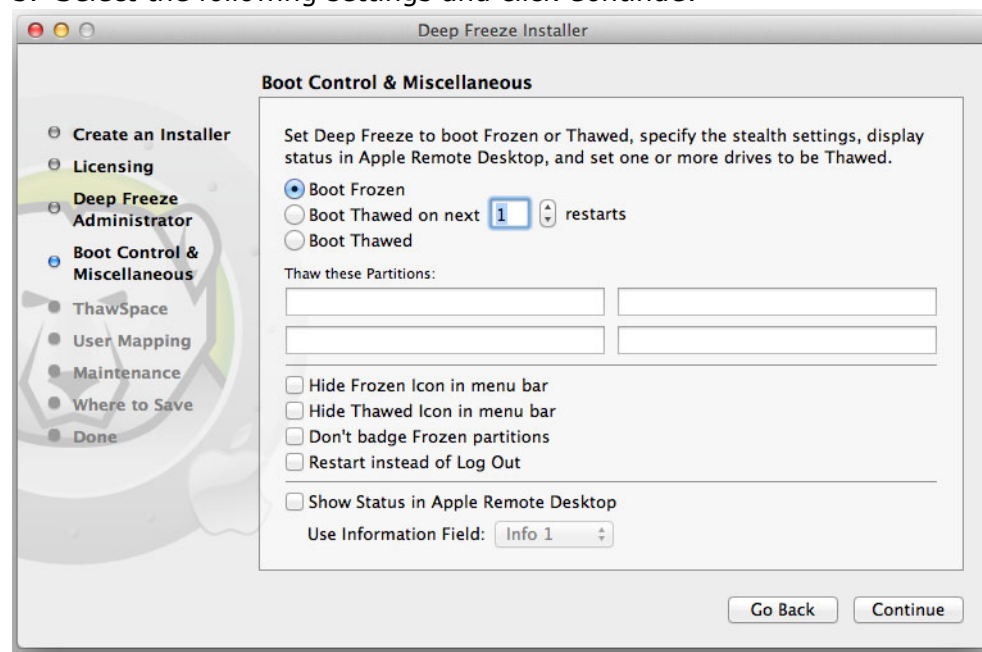
- *Boot Frozen* — select this option to boot the computer in Frozen state. This enables Deep Freeze protection after restart.

- *Boot Thawed on Next x restarts* — select this option if you want the computer to restart x number of times in a Thawed state before restarting in a Frozen state. Select the value of x from the spin box.

> ⚠️ Use the *Boot Thawed on Next x restarts* for quick changes. For installing or upgrading your software, you may want to use *Boot Thawed* to complete and test your installation.

- *Boot Thawed* — select this option to boot the computer in a Thawed state. This option disables Deep Freeze protection after restart to allow permanent changes to the computer.

- *Thaw these partitions* — specify the partitions you want to remain Thawed (even when the computer is in a Frozen state).

- *Hide Frozen icon in menu bar* — select this option to hide the Frozen icon in the menu bar.

- *Hide Thawed icon in menu bar* — select this option to hide the Thawed icon in the menu bar.

- *Don't badge Frozen partitions* — select this option if you do not want to badge Frozen partitions.

- *Restart instead of Log Out* — select this option to restart the computer when a user logs out.

- *Show status in Apple Remote Desktop* — select this option to show status of Deep Freeze in Apple Remote Desktop. Select the field from the drop-down that will be used to show status. This will show if the computer is in Frozen or Thawed state.

6. Select the following options in the ThawSpace tab and click *Continue*. A ThawSpace is a virtual partition where data is retained across multiple restarts even when the computer is in a Frozen state. A ThawSpace is not protected by Deep Freeze.
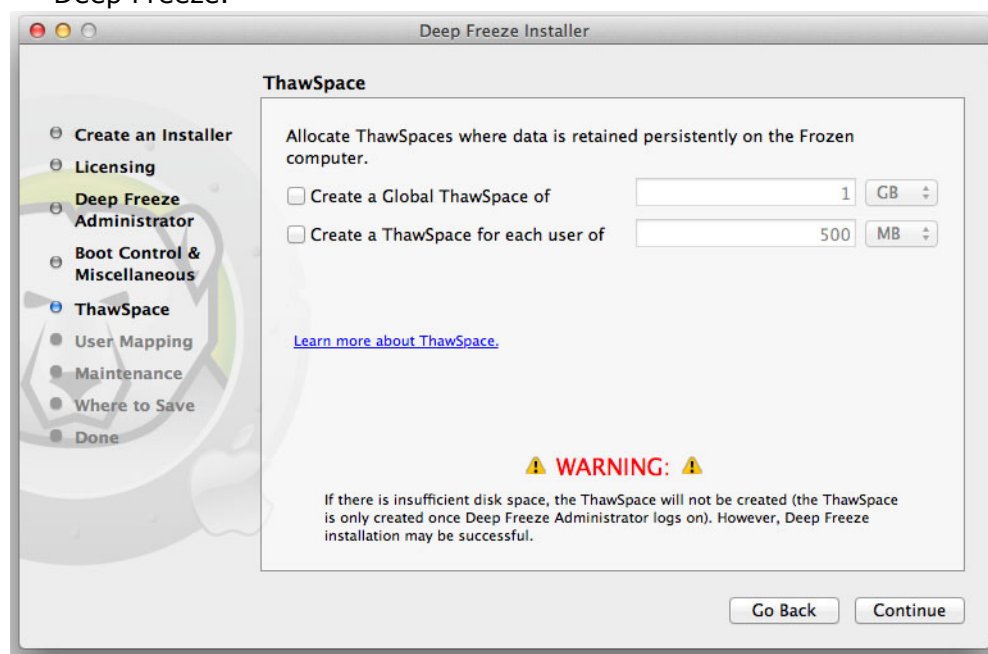
- *Create a Global ThawSpace of* — select this option to create a ThawSpace that will be accessible to all users to store their data. Specify the size of the ThawSpace.

- *Create a ThawSpace for each user of* — select this option to create a ThawSpace for each user. Specify the size of the ThawSpace.

7. Select the following options in the User Mapping screen and click *Continue*. User Mapping allows administrators to redirect user profiles to a ThawSpace or a Thawed disk to allow data retention across multiple restarts.
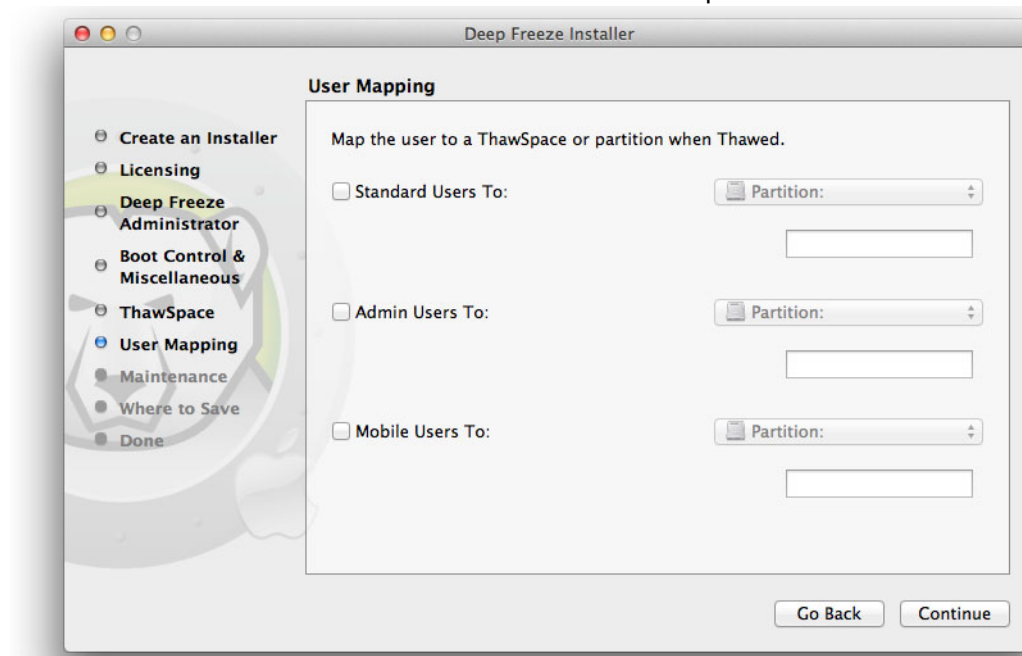
- *Standard Users To* — select this option and specify the ThawSpace where the standard users' data will be stored. The ThawSpaces created in the previous step can be selected here.

- *Admin Users To* — select this option and specify the ThawSpace where the Admin users' data will be stored. The ThawSpaces created in the previous step can be selected here.

- *Mobile Users To* — select this option and specify the ThawSpace where the Mobile users' data will be stored. The ThawSpaces created in the previous step can be selected here.

8. Select the following options in the Maintenance Screen and click *Continue*. Deep Freeze Maintenance Schedule allows administrators to schedule and automate maintenance activities. During the Maintenance Period, Deep Freeze will restart the computer in a Thawed state to perform the maintenance activities. At the end of the Maintenance Period, Deep Freeze will restart the computer in a Frozen state.
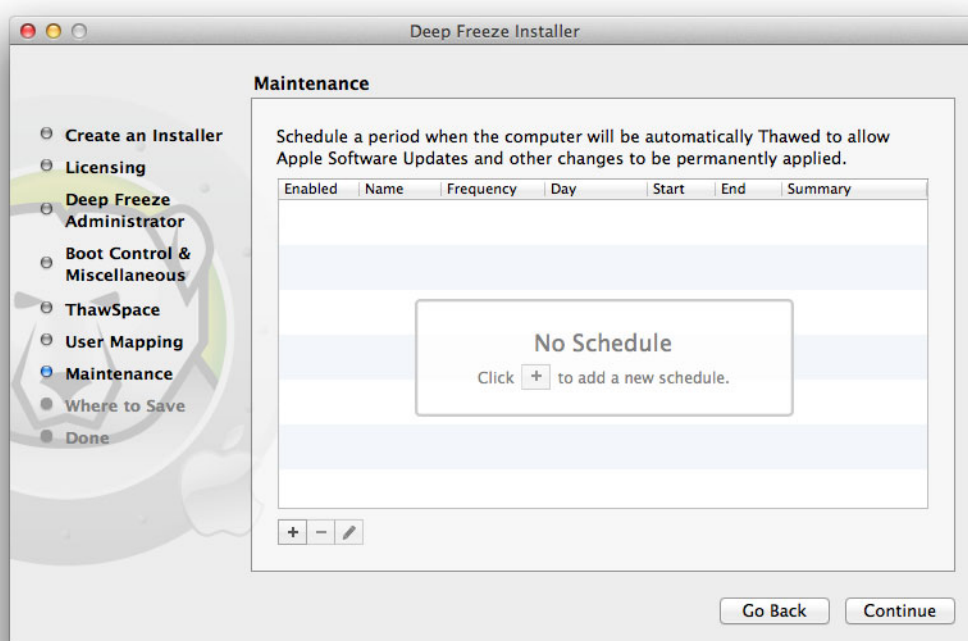
Click (+) to add a Maintenance Schedule. Configure the following settings:

- Name - the default is Schedule 1. You can modify the name or leave it as it is.

- Frequency - select *Repeating* for selecting multiple days or *Once only* for a single day.

- Day - select one or more days by clicking Mon to Sun.

- Start - select the start time.

- End - select the end time.

- Select *Install Apple Software Updates* to install any available *Apple Software Updates*. Install Software Updates option does not install firmware updates.

- Run script - select this option and select Add Script from the drop-down (for the scripts already in the Scripts folder). To add new scripts, browse to the folder, select an executable script file and click *Choose* to add script. The scripts will then appear in the drop-down menu.

- Select *Lock Out User* to prevent a user from accessing the computer during the Maintenance Period.

- Select *Shutdown After Maintenance* to shut the computer down after the Maintenance Period is complete.

- Select *Show message x minutes before maintenance starts* to provide a message to users warning them that the computer will be taken over at a specified time, and enter the warning time in the field provided. Use the text box to enter a custom message for the user, explaining that the Maintenance Schedule will take place at a specified time; by inserting %d as a variable into the message, Deep Freeze will automatically display the number of minutes until the Maintenance Period begins. (Again, %d is a variable corresponding to the number of minutes between the current time and the time that scheduled Maintenance will begin.)

> ⚠️ The minimum time allowed for a Maintenance Period is 10 minutes.
>
> There is a minimum 10 minute interval required *between* schedules.
>
> Ensure sufficient time for the maintenance activity to complete. Insufficient time will lead to the failure of the update.

9. Click *Choose* to specify the location. Click *Continue*.

> ⚠️ If you are creating an installer on a Frozen computer, make sure you save it on a Thawed location.
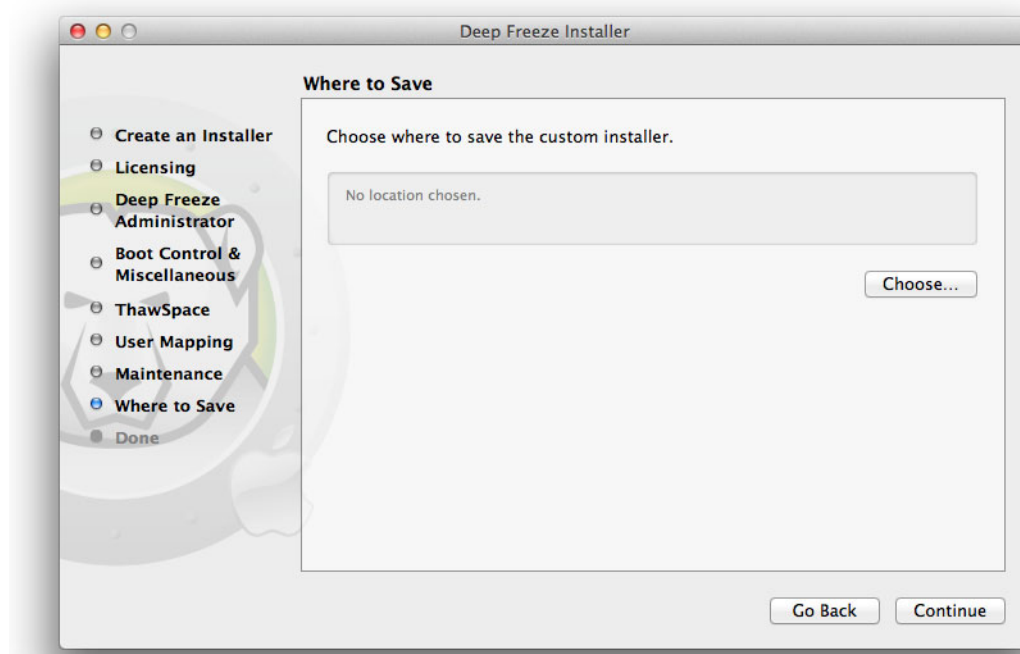
10.The Deep Freeze installer is successfully created and saved in the location specified. Click *Show in Finder* to view the file. Click *Quit* to exit the installer.
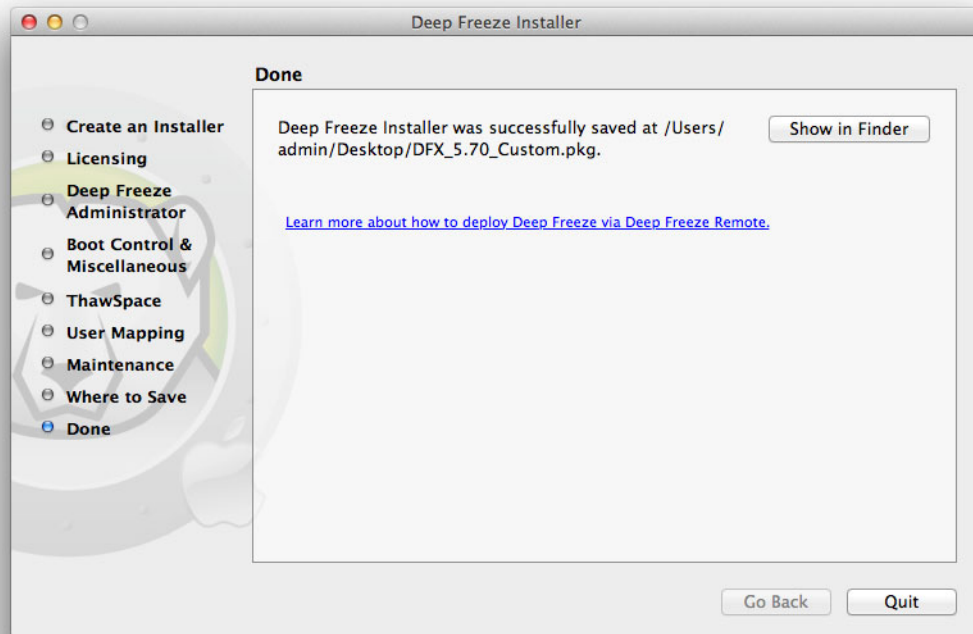
Once an installer is created, it can be deployed to multiple computers either manually or remotely via Apple Remote Desktop or Deep Freeze Remote. For more information, refer to Deep Freeze Remote and Deep Freeze Tasks.

Option 3: Install Deep Freeze Remote and Tasks for ARD

Select this option to install Deep Freeze Remote and Deep Freeze tasks to manage Deep Freeze remotely via ARD.

Complete the following steps after selecting *Install Deep Freeze Remote and Tasks for ARD* and clicking *Continue*.

1. Create a Deep Freeze Administrator. Specify the *Deep Freeze User Name*, *Password* and verify the password.

> ⚠️ If Deep Freeze is to be upgraded from the previous installation on the target workstation, the existing Deep Freeze Administrator user name and password must be entered during this step. A new Deep Freeze Administrator cannot be created during this step if a Deep Freeze Administrator already exists.

2. Click *Open Remote* to start Deep Freeze Remote. Click *Open ARD* to start Apple Remote Desktop. Click *Quit* to exit the installer.
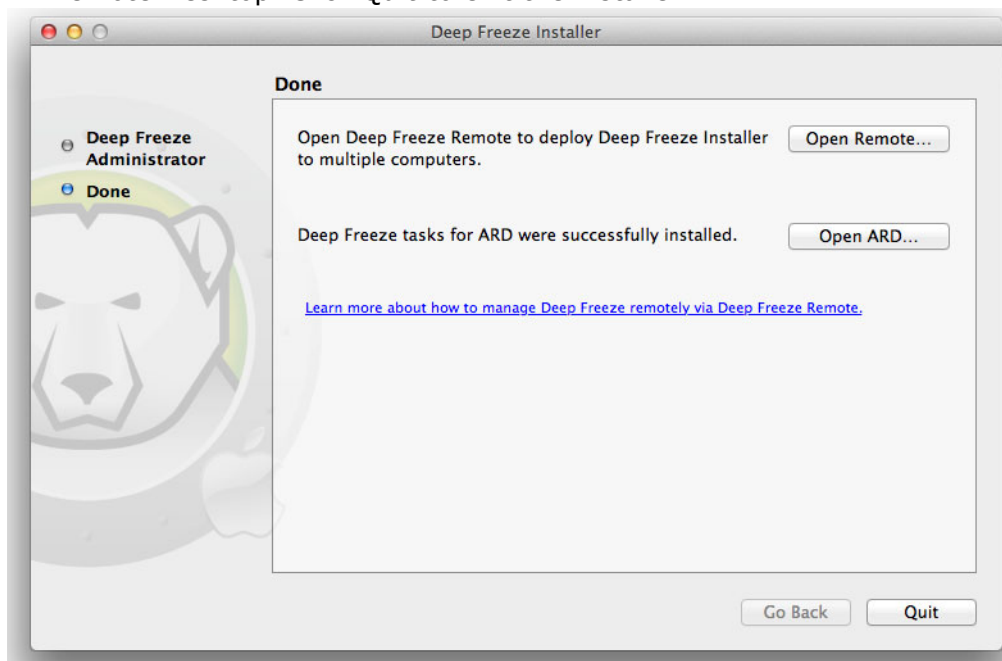
⚠️ If you are using Apple Remote Desktop 3.7 or later, you must restart the computer to finalize installing Deep Freeze Tasks. You will be presented with an option to restart the computer during installation. Click *Restart* to restart the computer and finalize the installation.

An installer can be deployed to multiple computers either manually or remotely via Apple Remote Desktop or Deep Freeze Remote. For more information, refer to Deep Freeze Remote and Deep Freeze Tasks.

Using Xgrid with Deep Freeze Mac

In order for Xgrid to work properly on a Frozen Macintosh, the Xgrid folder must be symlinked to a Thawed partition. When the computer is Thawed the /private/var/xgrid folder must be mapped to a Thawed location (either the Global ThawSpace or a Thawed partition) and then symlinked to its original location.

Use Terminal to do the following:

- sudo cp -R /private/var/xgrid "some Thawed location" (another partition OR the Global ThawSpace)
- sudo rm -R /private/var/xgrid
- sudo ln -s "some Thawed location"/xgrid /private/var/xgrid

Using Deep Freeze

This chapter describes the procedure to access, configure, and use Deep Freeze Mac.

Topics

Overview

Login

Boot Control Tab

Drives Tab

ThawSpace Tab

Maintenance Tab

Mapping Tab

Uninstall Tab

Overview

After Deep Freeze has been installed the computer can be operated as usual. The only visual evidence that Deep Freeze is installed on a computer are the presence of a Deep Freeze icon in the menu bar (if configured), the Deep Freeze icon badge on each Frozen volume (if configured), or any configured Global or User ThawSpaces.

You can make changes to the computer, including renaming or deleting files and folders, downloading files from the Internet, changing the desktop, and more. However, the Frozen volumes are completely restored to their original configurations and contents at restart.

Deep Freeze Icons

When Deep Freeze is installed, the polar bear icon appears in the menu bar, if the icon has been configured to appear:

The Frozen polar bear icon indicates that the computer is currently Frozen.

The Thawed polar bear icon indicates that the computer is currently Thawed.

Saving Documents

On a computer that is Frozen, a user can permanently save documents to a Thawed volume on the computer, a Global or User ThawSpace, a network location, or onto a CD, USB key chain drive, or FireWire hard drive. For more information, refer to Mapping Tab.

Software Installation and Permanent Changes

Permanent changes and software installations can only be made to a Thawed computer, a Thawed volume, or a ThawSpace on the computer. If a computer is in a Frozen state, any software that has been installed will be gone after a restart.

A newly installed application should be run at least once while the computer or volume is Thawed in order to create a preference file, dismiss registration dialogs, and initialize various values.

A newly installed application may require the computer to be restarted for setup to be completed. If this is the case, it is recommended to restart the computer in a Thawed state, and then log in with the same user account, run the application once, and then log out before setting the computer to restart in a Frozen state.

Checking for Deep Freeze Updates

To check if the installed version of Deep Freeze is the most current one, select *Help > Check For Updates*.

Check whether the installed version is current via the ARD console by using the *checkForUpdates* task.

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Login

Complete the following steps to login to Deep Freeze:

1. Click the Deep Freeze icon and select Login. Alternatively, use the Control + Option + Shift + F6 key combination to start Deep Freeze. Another way to start Deep Freeze is to click the *DFXControl.app* located in */Applications/Faronics/*. The following dialog is displayed.

2. Enter the DF User Name and Password. Click *OK* to login to Deep Freeze.

Boot Control Tab

The Boot Control tab is used to change the status of Deep Freeze on a computer.
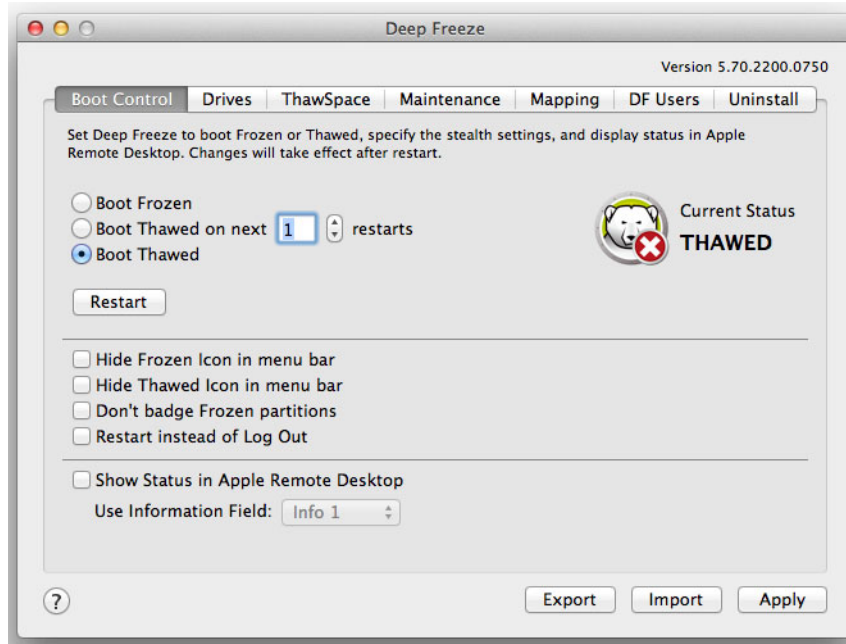
Use the three radio buttons provided to change the state of Deep Freeze:

- To set the computer to a Frozen state (protected), choose *Boot Frozen*.

- To set the computer to a Thawed state (unprotected) for a specified number of restarts, choose *Boot Thawed on Nex*t and specify the number of restarts (the number entered must be between 1-99).

- To set the computer to a Thawed state (unprotected), choose *Boot Thawed*.

- To restart the computer after making changes, click *Restart*.

The following configuration options are available:

- To hide the Frozen icon, select the *Hide Frozen Icon* in menu bar check box.

- To hide the Thawed icon, select the *Hide Thawed Icon* in menu bar check box.

- To display Frozen partitions without a Deep Freeze icon, select the *Don't badge Frozen partitions* check box.

- To set the computers to restart when a user logs out, select the *Restart instead of Log Out* check box. (This option does not work if Fast User Switching is enabled.)

- To display the computer status (Frozen or Thawed) remotely in Apple Remote Desktop, select the *Show Status in Apple Remote Desktop* check box and select the desired Information Field. The computer will now write Frozen or Thawed to the selected Information Field during boot time.

- To view this status information in Apple Remote Desktop, select *Edit > View Options* and select the matching Computer Info Field (1–4). computers will now show their current status, and groups of computers can be sorted by this status column.

- To save changes, click *Apply*; changes take effect after a restart.

Drives Tab

When the Drives tab is selected, Deep Freeze searches the computer and lists the drives present on a computer. The drives listed can be put into a Frozen state or a Thawed state.
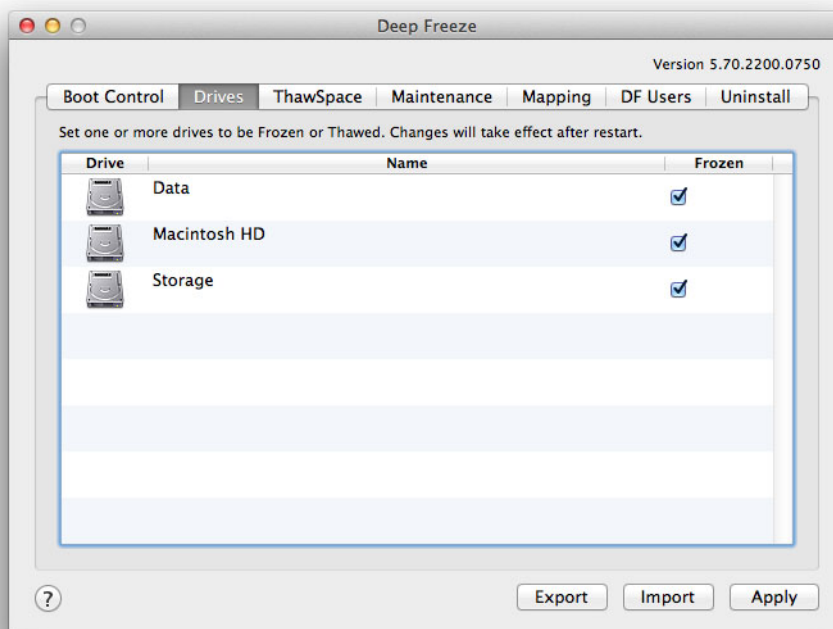
All drives on the computer are initially Frozen by default, unless otherwise specified in the Deep Freeze Installer. If you have created a partition to save user data and did not designate it as a Thawed partition in the Deep Freeze Installer, put that partition in a Thawed state by deselecting the corresponding check box in the *Frozen* column.

To save any changes made, click *Apply*; the changes take effect after a restart.

⚠️ Removable media such as USB, FireWire or Thunderbolt are not displayed and cannot be Frozen.

ThawSpace Tab

The ThawSpace tab is used to create virtual Thawed partitions where documents and changes are retained persistently on Frozen computers. Administrators can create a User ThawSpace for each User, or a Global ThawSpace that all users can share. The ThawSpace tab displays only the users that have ThawSpace.

Global and User ThawSpaces are easily distinguishable by the icons displayed in the Type column.

The Global icon represents the Global ThawSpace.

The User icon represents a User ThawSpace.

ThawSpaces can be added or deleted from within the tab using the *Add* and *Delete* buttons. ThawSpaces are sized in MB or GB and can range from 1 MB to 120 GB.

The computer must be in a Thawed state to create or modify a ThawSpace. If a ThawSpace was set up using the Deep Freeze Installer, a dialog (with a progress bar) appears stating that ThawSpaces are being created. The Global ThawSpace and user ThawSpace are displayed as removable media on the desktop. Other users' ThawSpaces are displayed as a folder with restricted access.

A maximum of one Global and 32 User ThawSpaces can be created on each computer. The User ThawSpaces are visible for mapping purposes. ThawSpaces appear as removable media on the Desktop.
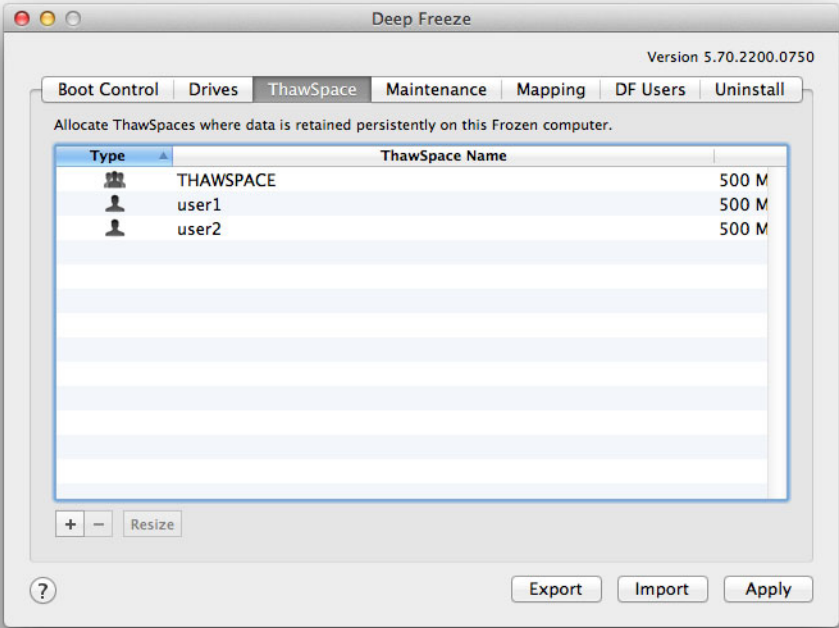
Adding a Global ThawSpace

To create a Global ThawSpace, complete the following steps:

1. Click (+).

2. Select Global ThawSpace from the list of User Names.

3. In the Size field, enter the size of the ThawSpace and use the drop down menu to choose if it is sized in MB or GB. The default size of the Global ThawSpace is 1 GB.

4. Click *OK*, or click *Cancel* to return to the tab without adding the ThawSpace.

5. In the ThawSpace tab, click *Apply* to create the new ThawSpace. A dialog prompts for the administrative username and password.

Adding a User ThawSpace

To create a ThawSpace for a particular user on the drive, complete the following steps:

1. Click (+).

2. Select the user that the ThawSpace will be created for.

3. In the Size field, enter the size of the ThawSpace and use the drop-down list to choose if it is sized in MB or GB. The default size of the User ThawSpace is 500 MB.

4. Click OK, or click Cancel to return to the tab without adding the ThawSpace.

5. In the ThawSpace tab, click *Apply* to create the new ThawSpace. A dialog prompts for the administrative username and password.

⚠️ A Global ThawSpace is accessible to all users. However, the user ThawSpace is accessible only to the particular user. When a user logs in, other users' ThawSpaces will be displayed on the Desktop as a folder with restricted access.

⚠️ It is not possible to remove an existing ThawSpace and retain its contents. Removing a ThawSpace that has a user mapped to it will prevent the user from logging in to the computer. It is recommended that the user be mapped to an alternate location before the ThawSpace is removed.

Removing a User or Global ThawSpace

To remove a User or Global ThawSpace, complete the following steps:

1. Select the ThawSpace to be deleted and click (-). A dialog appears, asking for confirmation of the deletion.

2. Click *Delete* to permanently delete the ThawSpace or *Cancel* to return to the tab with the ThawSpace retained.

3. Click *Apply*. A dialog prompts for the administrative username and password. The change will take effect on the next restart.

Alternatively, Deep Freeze Mac can be uninstalled in order to remove any ThawSpaces.

> ⚠️ If you unmount the ThawSpace virtual drive, it is restored upon log out/log in or restart. On a Frozen computer, if a ThawSpace is physically deleted, the ThawSpace is restored upon restart but the contents are deleted.

> ⚠️ Before removing a ThawSpace, remove its profile or folder mapping. You must also remove any symbolic links before removing a ThawSpace.

> ⚠️ Data stored in a ThawSpace is not protected by Deep Freeze. Use standard data protection like backup and anti-virus to protect data in a ThawSpace.

Resizing a ThawSpace

Once a ThawSpace is created, it can be resized by either increasing or decreasing the size of the ThawSpace. Complete the following steps to resize one or more ThawSpaces:

1. Click ThawSpace. Select one or more ThawSpaces and click *Resize*.

2. In the New Size field, enter the size of the ThawSpace and use the drop-down list to choose if it is sized in MB or GB. The default size of a ThawSpace (User ThawSpace and Global ThawSpace) is 500 MB.

3. Click *OK* to resize the ThawSpace(s), or Cancel to return to the tab without resizing the ThawSpace(s).

4. In the ThawSpace tab, click *Apply* to resize the ThawSpace(s). A dialog prompts for the administrative username and password. The change will not take effect without a restart.

> ⚠️ Once a ThawSpace is resized, the changes will take effect only after a restart.

Limitations of Resizing a ThawSpace

The minimum ThawSpace size is the actual data space being used or 1 MB (whichever is higher) and the maximum ThawSpace size is the actual partition size or 120 GB (whichever is lower). Increasing the size of a ThawSpace does not have any limitations. However, reducing the size of a ThawSpace may not be possible in some circumstances.

For example, a 10 MB ThawSpace is successfully resized when increased to 20 MB even if data is stored on the entire ThawSpace. However, if a 10 MB ThawSpace is reduced to anything less than 10 MB, it may not be possible to resize a ThawSpace depending on where the data is written. If the data is distributed over the 10 MB space, the ThawSpace cannot be resized. However, if the data is written only at the start of the ThawSpace, it can be resized to the limit where there is continuous free space till the end of the ThawSpace.

To defragment the ThawSpace, copy all the data out of it, delete the ThawSpace, re-create the ThawSpace with the desired size and copy all the data back to the ThawSpace. You can also copy the data, delete the data from the ThawSpace and copy the data back to the ThawSpace, it does not guarantee that the operating system will use a contiguous drive space.

Maintenance Tab

The Maintenance tab is used to schedule a Maintenance Period when the computer will be automatically Thawed to allow Apple Software Updates to be permanently applied. The computer must be *Frozen* for the Maintenance schedule to start.
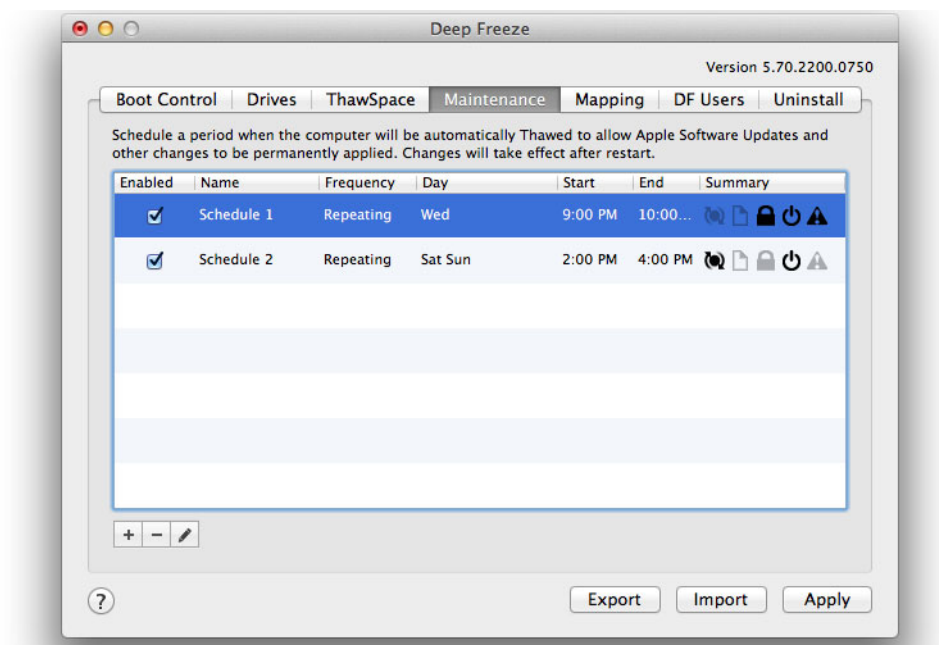
Creating and Naming Multiple Maintenance Schedules

To create multiple individually named Maintenance Schedules, complete the following steps:

1. On the Maintenance Tab, click (+).

2. The Add Schedule dialog is displayed. Specify or select the following:

- Name - the default is Schedule 1. You can modify the name or leave it as it is.

- Frequency - select *Repeating* for selecting multiple days or *Once only* for a single day.

- Day - select one or more days by clicking Mon to Sun.

- Start - select the start time.

- End - select the end time.

- Select *Install Apple Software Updates* to install any available *Apple Software Updates*.

- Run script - select this option and select Add Script from the drop-down. Browse to the folder, select the script and click *Choose* to add script. A previously added script can be deleted by selecting *Delete Script*.

> ⚠️ Scripts can be added or deleted only when the computer is in a Thawed state.

- Select *Lock Out User* to prevent a user from accessing the computer during the Maintenance Period.
- Select *Shutdown After Maintenance* to shut the computer down after the Maintenance Period is complete.
- Select *Show message x minutes before maintenance starts* to provide a message to users warning them that the computer will be taken over at a specified time, and enter the warning time in the field provided. Use the text box to enter a custom message for the user, explaining that the Maintenance Schedule will take place at a specified time; by inserting %d as a variable into the message, Deep Freeze will automatically display the number of minutes until the Maintenance Period begins. (Again, %d is a variable corresponding to the number of minutes between the current time and the time that scheduled Maintenance will begin.)

> ⚠️ The minimum time allowed for a Maintenance Period is 10 minutes.
>
> There is a minimum 10 minute interval required *between* schedules.
>
> Ensure sufficient time for the maintenance activity to complete. Insufficient time will lead to the failure of the update.

3. To save any changes made, click *OK*; the changes take effect after a restart.

Edit, Delete, Export, and Import

To delete a Maintenance Schedule, select it click Delete (-).

To edit a Maintenance Schedule, select it and click Edit.

To disable a Maintenance Schedule, clear the Enabled check box.

To enable a Maintenance Schedule, select the Enabled check box.

Mapping Tab

The Mapping tab is used to map the user's home folder to a specific ThawSpace or partition, or to map elements of a user's home folder to a specific ThawSpace or partition. This feature is only available at the administrator level. The current logged in user can not be mapped.
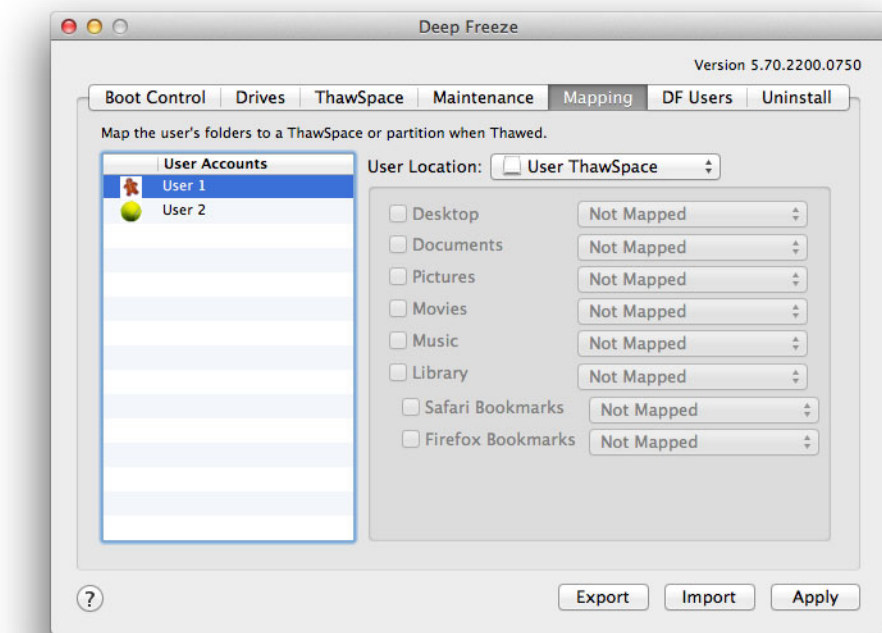
To map a user's home folder to a target destination, select the user's account and under User Location select one of the options available: Boot Volume, User ThawSpace, Partition, or Custom.

- *Boot Volume* —This option maps the user account to the volume the operating system is booted from. If the boot volume is Frozen, changes will be lost upon restart.

- *User ThawSpace* — This option maps the user account to the corresponding User ThawSpace created for this user. It is not recommended that User ThawSpaces be renamed because a renamed ThawSpace will prevent access from the original user account.

- *Partition* — The user account can be mapped to a specific partition listed in the Drives tab.

- *Custom*— This option lets certain elements (pictures, movies and, music, etc.) of a user account be mapped to the User ThawSpace/Partitions. To do this, click on the element and select the ThawSpace/Partition that it will be mapped to. Custom mapped users must be located on the boot volume. Users can not be mapped entirely to their User ThawSpace/any other volume and then partially custom mapped to another location.

Click *Apply* after making changes.

For bookmarks, the location must exist to be mapped; e.g. if a user has never run Safari, it can not be mapped. Deep Freeze does not create the folders and bookmarks for a user.

> ⚠️ If an attempt to map to a location with insufficient space is made, the mapping action will not take place.

> ⚠️ The Short Name must match the Home Directory name in *System Preferences > Accounts > Account_Name > Advanced Options* for mapping to work.

DF Users Tab

The DF Users tab allows administrators to manage the Deep Freeze users present on a computer. There are a maximum of four users permitted on each computer, but only the first user (the admin user) can create, edit, and delete other DF Users. All other privileges are the same for Deep Freeze Administrator and Deep Freeze Users.
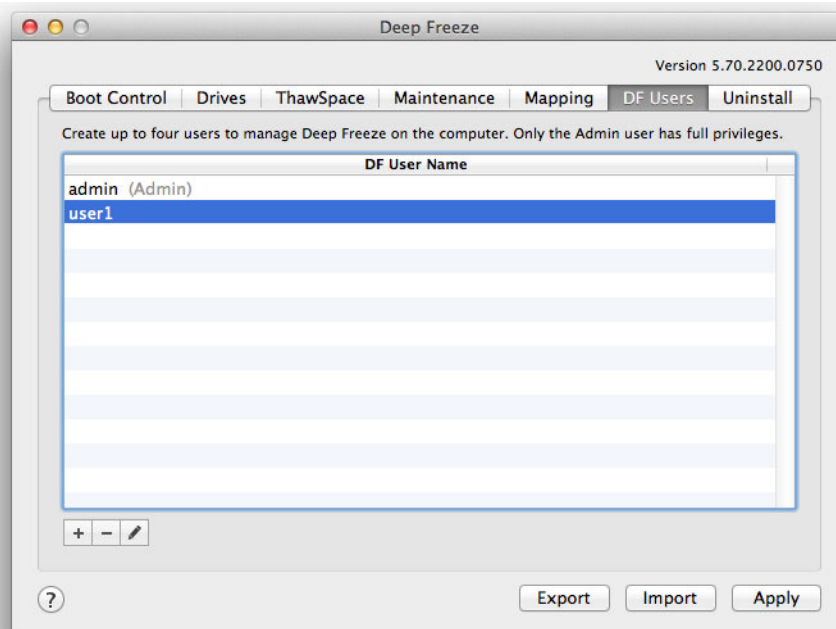
Adding, Deleting, and Editing DF Users

To add a new user, complete the following steps:

1. Click (+).

2. Enter the *DF User Name* and *Password* and verify the password.

3. Click OK to save the changes to the user profile, or click Cancel to exit with no changes saved.

To delete a DF User, click (-). A dialog appears asking for confirmation of the deletion. Click Cancel to exit the dialog, or click Delete to delete the DF User permanently. There must always be at least one DF User present; the first DF User created can not be deleted.

To edit the properties of a DF User, click *Edit*. Edit the User Name and Password in the properties dialog as needed.

Uninstall Tab

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

The ThawSpaces are available at */Library/Application Support/Faronics/Deep Freeze/ThawSpaces*.

To uninstall Deep Freeze, click *Uninstall*.
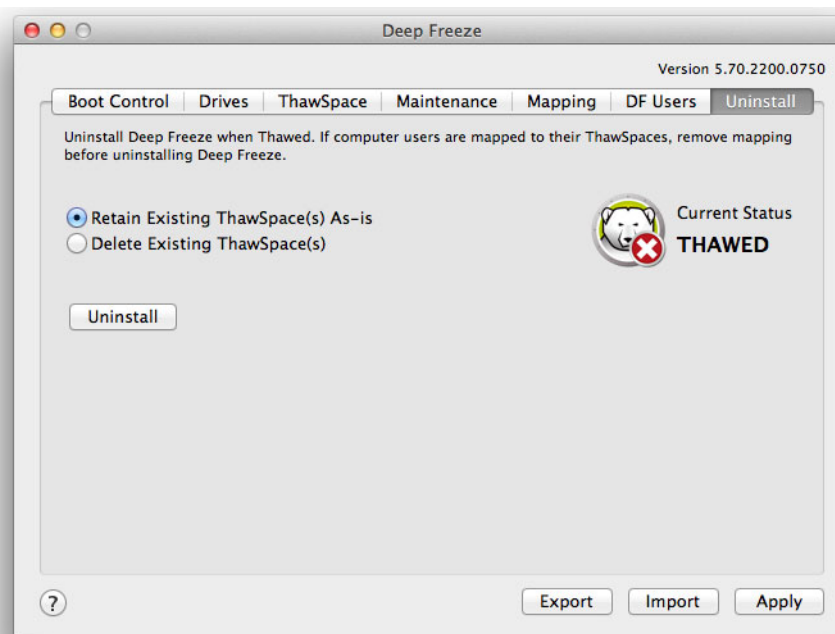
The computer restarts and Deep Freeze is uninstalled.

> ⚠️ All program components are permanently deleted when Deep Freeze is uninstalled.

> ⚠️ Before removing a ThawSpace, remove its profile or folder mapping.

Exporting and Importing Configurations

A file containing the configuration information set in Deep Freeze can be exported as a property list file. The property list can be imported into another Deep Freeze installer and deployed to targeted computers.

To export the configurations set in Deep Freeze, click *Export* and save the file to a preferred location.

To import a configuration file, click *Import* and browse to the location of the saved file. The computer must be restarted for any changes to take effect from the imported file.

Drives, ThawSpace, and mapping pages are not exported or imported since they are not relevant to other computers.

Deep Freeze Remote

This chapter describes the procedure to manage Deep Freeze using Deep Freeze Remote.

Topics

Overview

Using Deep Freeze Remote

Overview

Deep Freeze Remote allows you to manage Deep Freeze via ARD. Since ARD is a prerequisite for Deep Freeze Remote, make sure you have ARD installed on the same computer before installing and using Deep Freeze Remote.

Before using Deep Freeze Remote:

- ARD must be running in the background for Deep Freeze Remote to perform its actions. Deep Freeze Remote must be installed only on the administrator's computer.

- Deep Freeze Remote requires to have Deep Freeze user name and password in order to send the commands to computers. Deep Freeze Remote does not require Deep Freeze tasks for ARD to be installed.

- Deep Freeze Remote obtains *Computer Lists* and a *List of Computers* from *ARD*. Since Deep Freeze Remote relies on ARD, first set up the Computers in the Computer Lists from within ARD. In order for a computer to be added to a computer list, the Administrator must know the computer's Administrator user name and password and authenticate it within ARD.

- Create a list of Deep Freeze computers to be managed within ARD.

Using Deep Freeze Remote

Deep Freeze Remote can be started from the */Applications* folder. Double-click Deep Freeze Remote to start it.
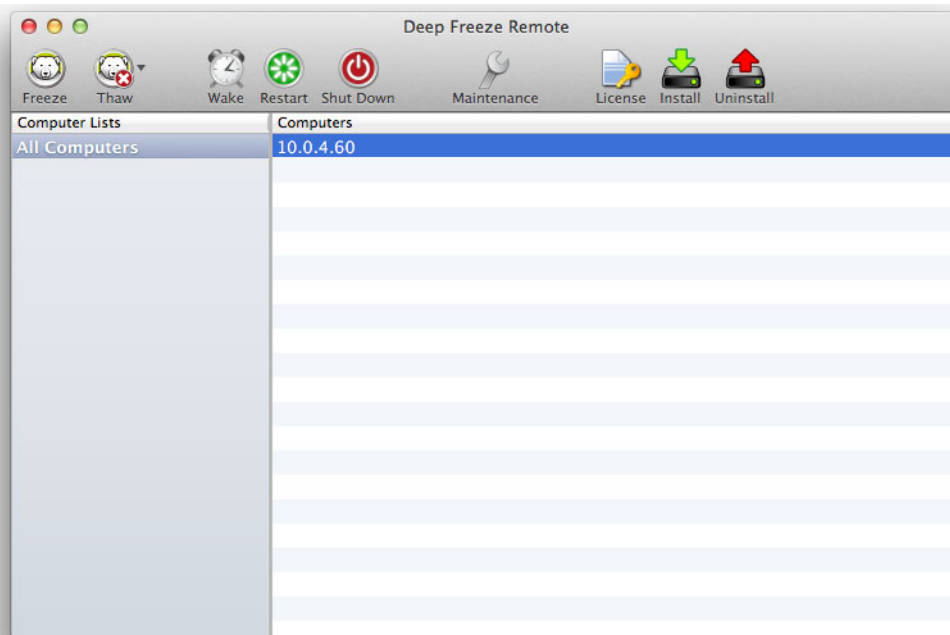
Complete the following steps to perform the particular action:

Freeze

1. Select the computers from the Computers pane and click *Freeze*.

2. Select if you want to *Allow users to save files and restart*, *Restart immediately (changes to unsaved files will be lost)* or *Don't restart* (the action will take effect only after a restart).

3. Click *OK*.

Thaw

1. Select the computers from the Computers pane and select *Thaw* or *Thaw for Next Several Restarts* from the drop-down. Specify the number of restarts for *Thaw for Next Several Restarts* option.

2. Select if you want to *Allow users to save files and restart*, *Restart immediately (changes to unsaved files will be lost)* or *Don't restart* (the action will take effect only after a restart).

3. Click *OK*.

Wake

Select the computers from the Computers pane and click *Wake*.

⚠️ Before using the *Wake* action, make sure the *Wake for network access* option is enabled in *System Preferences > Energy Saver* pane at the target computer. The *Wake* action will fail if this option is not selected at the target computer.

Restart

1. Select the computers from the Computers pane and click *Restart*.
2. Select if you want to *Allow users to save files and restart*, or *Restart immediately (changes to unsaved files will be lost)*.
3. Click *OK*.

Shut Down

1. Select the computers from the Computers pane and click *Shut Down*.
2. Select if you want to *Allow users to save files and Shut Down*, or *Shut Down immediately (changes to unsaved files will be lost)*.
3. Click *OK*.

Maintenance

Select the computers from the Computers pane and click *Maintenance*.

1. Click (+) to add a Maintenance Schedule. Configure the following settings:
2. The Add Schedule dialog is displayed. Specify or select the following:

- Name - the default is Schedule 1. You can modify the name or leave it as it is.
- Frequency - select *Repeating* for selecting multiple days or *Once only* for a single day.
- Day - select one or more days by clicking Mon to Sun.
- Start - select the start time.
- End - select the end time.
- Select *Install Apple Software Updates* to install any available *Apple Software Updates*.

- Run script - select this option and select Add Script from the drop-down. Browse to the folder, select the script and click *Choose* to add script. A previously added script can be deleted by selecting *Delete Script*. Location of the added script files is *~/Library/Application Support/Faronics/Deep Freeze/Scripts* folder.

> ⚠️ Scripts can be added or deleted only when the Target computers are in a Thawed state.

- Select *Lock Out User* to prevent a user from accessing the computer during the Maintenance Period.
- Select *Shutdown After Maintenance* to shut the computer down after the Maintenance Period is complete.
- Select *Show message x minutes before maintenance starts* to provide a message to users warning them that the computer will be taken over at a specified time, and enter the warning time in the field provided. Use the text box to enter a custom message for the user, explaining that the Maintenance Schedule will take place at a specified time; by inserting %d as a variable into the message, Deep Freeze will automatically display the number of minutes until the Maintenance Period begins. (Again, %d is a variable corresponding to the number of minutes between the current time and the time that scheduled Maintenance will begin.)

> ⚠️ The minimum time allowed for a Maintenance Period is 10 minutes.
>
> There is a minimum 10 minute interval required *between* schedules.
>
> Ensure sufficient time for the maintenance activity to complete. Insufficient time will lead to the failure of the update.

3. Click *Send*.

4. Select if you want to *Allow users to save files and restart*, *Restart immediately (changes to unsaved files will be lost)* or *Don't restart* (the action will take effect only after a restart).

5. Click *OK*.

Click *Export* to export the maintenance schedule. Click *Import* to import a previously exported maintenance schedule.

> ⚠️ All schedules sent to the selected computers will replace the existing schedules.

License

1. Select the computers from the Computers pane and click *License*.

2. Specify the Deep Freeze License Key.

3. Click *OK*.

Install

1. Select the computers from the Computers pane and click *Install*.

2. Click Choose to browse and select the installer.

3. Click *Install*.

4. Select if you want to *Allow users to save files and restart*, *Restart immediately (changes to unsaved files will be lost)* or *Don't restart* (the action will take effect only after a restart).

5. Click *OK*.

Uninstall

1. Select the computers from the Computers pane and click *Uninstall*.

2. Select *Retain Existing ThawSpace(s) As-is* to retain the ThawSpaces. Select *Delete Existing ThawSpace(s)* to delete all the ThawSpaces on the selected computer.

3. Click *Uninstall*.

4. Select if you want to *Allow users to save files and restart*, *Restart immediately (changes to unsaved files will be lost)* or *Don't restart* (the action will take effect only after a restart).

5. Click *OK*.

Deep Freeze Tasks

This chapter describes the procedure use Deep Freeze tasks with ARD.

Topics

Overview

Deep Freeze tasks are pre-configured actions used to manage Deep Freeze via ARD.

Using Deep Freeze Tasks

In ARD, the Deep Freeze-specific tasks are saved in the Deep Freeze folder.
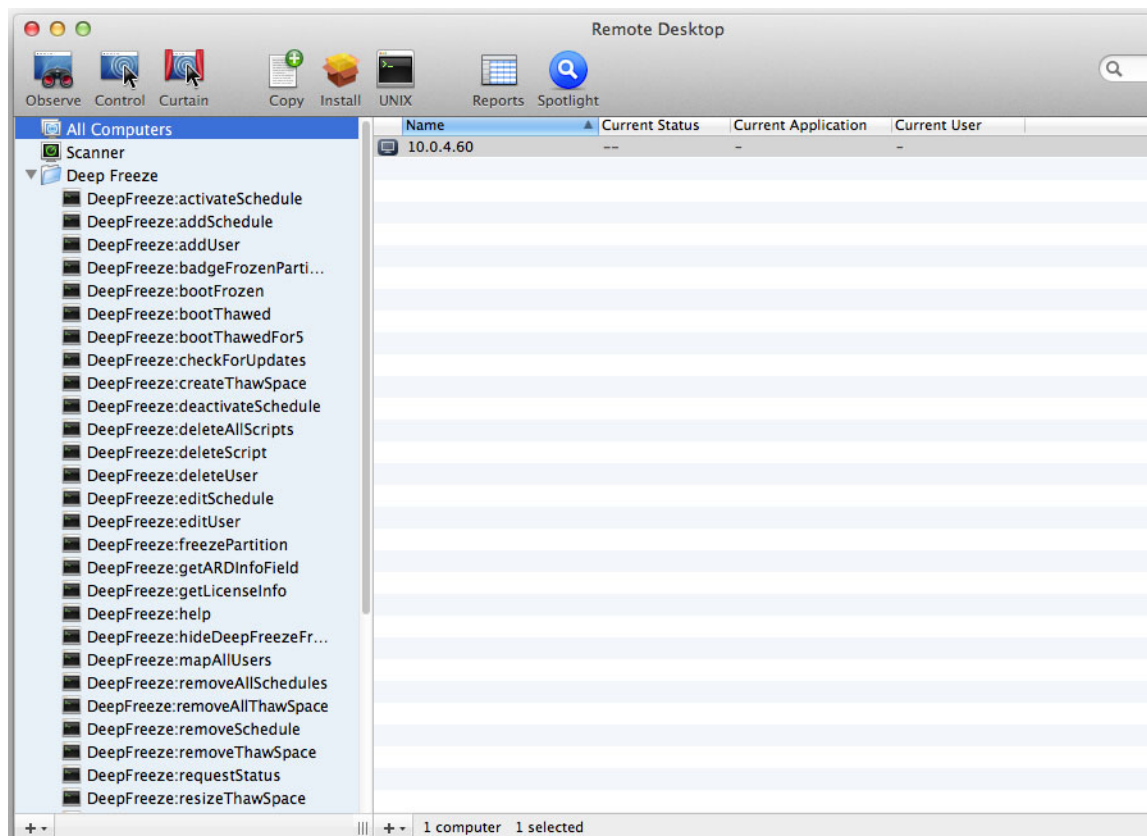
The functions of each task are identical to the functions described below. Each task can be configured in Deep Freeze, except for *requestStatus*.

The following commands and arguments are available:

Command	Argument	Description
activateSchedule	Schedule name	Activates the scheduled updates on target computer(s); name of the schedule must be included in the command as a parameter.
addUser	New user name	Adds user to list.
addSchedule	schedule_name [-a "on"|"off"] [-d monday[,tuesday,wednesday,thursday,friday,saturday,sunday]] [-b "24-hr-time"] [-e "24-hr-time"] [-o "on"|"off"] [-i "on"|"off"] [-l "on"|"off"] [-w "off"|5-999] [-m "message string"] [-s "on"|"off"] [-r "off" | "script name"]	Adds a schedule. 24-hr-time is in the form of HH:MM. Multiple days is only for repeating schedules. When specifying multiple schedules, there should be no space between the days specified.

Command	Argument	Description
`badgeFrozenPartitions`	on|off	Shows/Hides Deep Freeze icon on Frozen partitions.
`bootFrozen`		Sets target computer(s) to restart in a Frozen state.
`bootThawed`		Sets target computer(s) to restart in a Thawed state.
`bootThawedFor`	Times	Sets target computer(s) to restart in a Thawed state for the next x restarts; this number can be customized in the Times argument.
`checkForUpdates`		Checks whether the present version of Deep Freeze on the target computer(s) is the most current.
`createThawSpace`		Creates virtual partition on a Frozen volume where data can be saved persistently across restarts*.
`deactivateSchedule`	Schedule name	Deactivates the scheduled updates on target computer(s); name of the schedule must be included in the command as an argument.
`deleteUser`	User name	Deletes user from list.
`deleteScript`	Script Name	Deletes a specific script.
`deleteAllScripts`		Deletes all scripts.
`editSchedule`	schedule_name [--newname "new_schedule_name"] [--activate "on"|"off"] [--day monday[,tuesday,wednesday,thursday,friday,saturday,sunday]] [--begin "24-hr-time"] [--end "24-hr-time"] [--onceonly "on"|"off"] [--installappleupdate "on"|"off"] [--lockuser "on"|"off"] [--warnuser "off"|5-999] [--message "message string"] [--shutdownafter "on"|"off"] [--runscript "off"|"script name"]	Edits a schedule.

Command	Argument	Description
editUser	User name	Allows administrators to edit the name and password of a user.
freezePartition	Partition name	Designates a partition on target computer(s) to be Frozen.
getARDInfoField		Specifies which Apple Remote Desktop's information field is used to display the computer status.
getLicenseInfo		Displays the License information.
mapAllUsers	(Argument 1) admin|standard|mobile (Argument 2) Partition name| userthawspace	Maps all users to a specified ThawSpace: name of user type and location of ThawSpace must be included as a parameter; e.g. admin Panther maps all admin users to the partition named Panther.**
help		This will print all the options and parameters available in the 'deepfreeze' command line tool.
removeSchedule	schedule_name	Removes a schedule.
removeAllSchedules		Removes all schedules.
resizeThawSpace	"global" | userthawspace_name nnnn	Resizes a ThawSpace. global is entered as it is, representing global ThawSpace. nnnn is the new size in MB.
rebootInsteadOfLogoff	on|off	Restarts target computer(s) instead of logging off when the on argument is used. This feature is turned off when the off argument is used.
removeThawSpace	userthawspace_name |global	Removes a single ThawSpace***
removeAllThawSpace		Removes all ThawSpaces present.

Command	Argument	Description
setARDInfoField	ARD Info Field	This parameter is used to specify which Remote Desktop's Information Field is used to display the computer status. The parameter value is 0 to 4, 0 is to unset the Information Field.
setLicenseKey	license_key	Sets the License Key.
showFrozenIcon	on|off	Configures target computer(s) to show/hide the Deep Freeze Frozen icon in the menu bar.
showThawedIcon	on|off	Configures target computer(s) to show/hide the Deep Freeze Thawed icon in the menu bar.
status	[-x]	Requests target computer(s) to display the status of various Deep Freeze settings. x specifies that the result is in XML format.
thawPartition	Partition name	Designates a partition on target computer(s) to be Thawed.
uninstall	[keepThawSpace]	Uninstalls Deep Freeze from target computer(s). The target computer(s) must be restarted in the Boot Thawed state before the uninstall task can be run. [keepThawSpace] uninstalls Deep Freeze from target computer(s) but retains ThawSpace.
version	[-x]	Displays Deep Freeze version number. x specifies that the result is in XML format.

* = This only occurs during the first DeepFreeze installation using the settings provided by the custom installer created by Deep Freeze Assistant.

**= The mapAllUsers command also includes the parameters: 'admin', 'standard', 'mobile', 'userthawspace' and, partition name such as 'Macintosh HD' or 'Panther'.

***= The single ThawSpace 'name' must be specified as well as 'global' for a Global ThawSpace.

Adding a script file via Apple Remote Desktop

Complete the following steps to add a script file via Apple Remote Desktop:

1. Select the target computer(s) from the computer list.

2. From the menu, select Manage > Copy Items…

3. Add the script files to the *Items to copy* list.

4. In the *Place items in:*, select *Specify full path…* and enter */Library/Application Support/Faronics/Deep Freeze/Scripts*. Click OK.

5. In the *Set ownership to:*, select *Inherit from destination folder*.

6. Other settings can be set as required.

7. Click Copy.

Adding Targeted Computers to the Task List

In order to run a task, there must be computers targeted to run the task. To add one or more computers to be targeted to run the task, complete the following steps:

1. In the left column, double-click the task to be targeted to the specified computers.

2. The *Task Edit* window appears. At the bottom of the window is a dialog listing the designated computers assigned to the task. Before a computer is added to the list, it reads *No Computers*.

3. Drag and drop the preferred computer or group of computers into the dialog from the computers in the *All Computers* list. The number of computers assigned to a specific task appears at the bottom of the window.

4. Click *Save*.

Using and Editing Tasks

To use the tasks, they must be edited to add site-specific information, e.g. usernames and passwords.

The following conditions and settings must apply 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.
- A user on the target computer must be specified to run the command.

The following figure shows the sample output from the Status function.

The *Display all output* check box must be selected in the *Apple Remote Desktop Edit Task* window in order to show the target's status.

```
****STATUS FOR: faronicss-mac-mini.local****
    BOOT THAWED
    HIDE FROZEN ICON IN MENU BAR: FALSE
    HIDE THAWED ICON IN MENU BAR: FALSE
    RESTART INSTEAD OF LOG OUT: FALSE
    DON'T BADGE FROZEN PARTITIONS: FALSE
    SHOW STATUS IN APPLE REMOTE DESKTOP: FALSE

    DRIVE STATUS
        Drive:Data Frozen:TRUE
        Drive:Macintosh HD Frozen:TRUE
        Drive:Storage Frozen:TRUE

    USER THAWSPACE INFORMATION
        ThawSpace:<user1> Size:500 MB
        ThawSpace:<user2> Size:500 MB

    GLOBAL THAWSPACE INFORMATION
        Size = 500 MB


    MAINTENANCE INFORMATION
        SCHEDULE 0: ENABLED (Schedule 1)
        SCHEDULE IS SET FOR Wed FROM 21:00 TO 22:00
        IN MAINTENANCE: FALSE
        FREQUENCY: REPEATING
        INSTALL UPDATES: FALSE
        RUN SCRIPT: FALSE
        TAKE OVER MACHINE: TRUE
        SHUTDOWN AFTER: TRUE
        SHOW MESSAGE: TRUE
        SHOW MESSAGE 5 MINUTES BEFORE
        MESSAGE: The computer will go into maintenance mode in %d minute(s).

        SCHEDULE 1: ENABLED (Schedule 2)
        SCHEDULE IS SET FOR Sat, Sun FROM 14:00 TO 16:00
        IN MAINTENANCE: FALSE
        FREQUENCY: REPEATING
        INSTALL UPDATES: TRUE
        RUN SCRIPT: FALSE
        TAKE OVER MACHINE: FALSE
        SHUTDOWN AFTER: TRUE
        SHOW MESSAGE: FALSE

    SCRIPT LIST
        No Script

    USER MAPPING

        User "admin" Home Directory: /Users/admin
        User "user1" Home Directory: /Volumes/user1/Users/user1
        User "user2" Home Directory: /Users/user2
            Documents  mapped
            Library  mapped
            Desktop  mapped
            Pictures  mapped
            Movies  mapped
            Music  mapped
```

The following figure shows the *activateSchedule* task set to run as the current console user on the target computer:
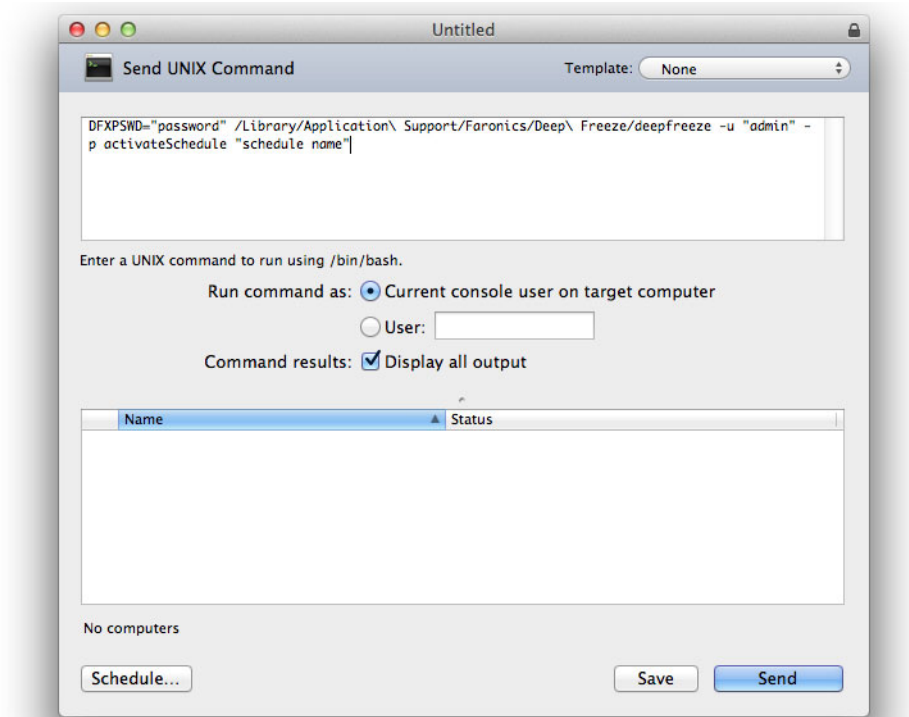
Each task must be edited to use a Deep Freeze user name and password for the target computer(s). In the above example, *admin* is the Deep Freeze user name and *password* is the Deep Freeze password.

> ⚠️ The following tasks must run as root on the target computer. Otherwise, insufficient permissions will cause the task to fail.

- createThawSpace
- deleteScript
- deleteAllScripts
- mapAllUsers
- removeThawSpace
- removeAllThawSpace
- resizeThawSpace
- status
- uninstall keepThawSpace
- uninstall

Sample Command Line Scripts

The Deep Freeze Mac tasks give network administrators increased flexibility when managing Deep Freeze Mac computers. These tasks can be run with several different third-party enterprise management tools and/or central management solutions; this includes executing commands in Terminal while connected to a remote computer via SSH.

A sample script using the boot Frozen command is shown below:

```
DFXPSWD="password" /Library/Application\ Support/Faronics/Deep\
Freeze/deepfreeze -u "admin" -p bootFrozen
```

In this example, *admin* is the name of a valid Deep Freeze Mac user and *password* is that user's password. The sample script can be modified to run any task listed in the Task table.

Here are additional examples to run the Deep Freeze Command Line:

Using the Deep Freeze user "admin" and the password "password", activates the "Schedule 1" maintenance schedule.

```
DFXPSWD="password" /Library/Application\ Support/Faronics/Deep\
Freeze/deepfreeze -u "admin" -p activateSchedule "Schedule 1"
```

Add a new user "mjones" with the password "xz18PfB".

```
DFXPSWD="password" DFXNEWPSWD="xz18PfB" /Library/Application\
Support/Faronics/Deep\ Freeze/deepfreeze -u "admin" -p addUser mjones
```

Change an existing user "mjones" to "jsmith" with the password "xz18PfB".

```
DFXPSWD="password" DFXNEWPSWD="xz18PfB" /Library/Application\
Support/Faronics/Deep\ Freeze/deepfreeze -u "admin" -p editUser mjones
jsmith
```

Add a schedule with the name "Software Update" that will perform software update every Wednesday and Saturday from 6:00 PM to 10:00 PM, warn the users at 5:50 PM with a message, lock out the users, do not shut down after maintenance ends, and execute the script "myscript.sh".

```
DFXPSWD="password" /Library/Application\ Support/Faronics/Deep\
Freeze/deepfreeze -u "admin" -p addSchedule "Software Update" -a on -d
wednesday,saturday -b 18:00 -e 22:00 -o off -i on -l on -w 10 -m
"Maintenance will begin in %d minutes." -s off -r myscript.sh
```

Add a schedule with the name "Software Update" that will perform software update once only on the coming Saturday from 6:00 PM to 10:00 PM, warn the users at 5:50 PM with a message, lock out the users, do not shut down after maintenance ends, and execute the script "myscript.sh".

```
DFXPSWD="password" /Library/Application\ Support/Faronics/Deep\
Freeze/deepfreeze -u "admin" -p addSchedule "Software Update" -a on -d
saturday -b 18:00 -e 22:00 -o on -i on -l on -w 10 -m "Maintenance will
begin in %d minutes." -s off -r myscript.sh
```

To map all standard users to users ThawSpace.

```
DFXPSWD="password" /Library/Application\ Support/Faronics/Deep\
Freeze/deepfreeze -u "admin" -p mapAllUsers standard userthawspace
```

To map all administrator users to a partition called "Second Drive".

```
DFXPSWD="password" /Library/Application\ Support/Faronics/Deep\
Freeze/deepfreeze -u "admin" -p mapAllUsers admin "Second Drive"
```

To remove global ThawSpace.

```
DFXPSWD="password" /Library/Application\ Support/Faronics/Deep\
Freeze/deepfreeze -u "admin" -p removeThawSpace global
```

To resize user ThawSpace for the user jsmith to 750 MB.

```
DFXPSWD="password" /Library/Application\ Support/Faronics/Deep\
Freeze/deepfreeze -u "admin" -p resizeThawSpace jsmith 750
```

Set the partition "Third Drive" to a Thawed state.

```
DFXPSWD="password" /Library/Application\ Support/Faronics/Deep\
Freeze/deepfreeze -u "admin" -p thawPartition "Third Drive"
```

Uninstalling Deep Freeze

This chapter describes the uninstall process.

Topics

Uninstalling Deep Freeze Manually on the Computer

Uninstalling Deep Freeze via Deep Freeze Remote

Uninstalling Deep Freeze via Deep Freeze Tasks

Uninstalling Deep Freeze Manually on the Computer

Complete the following steps to uninstall Deep Freeze manually on the computer where it is installed:

1. Log in to Deep Freeze.

2. Restart the computer to a *Thawed* state (if it is Frozen).

3. Go to the *Uninstall* tab.

4. Select *Retain Existing ThawSpace(s) As-is* to retain the ThawSpaces. Select *Delete Existing ThawSpace(s)* to delete all the ThawSpaces on the selected computer.

5. Click *Uninstall*.

Deep Freeze is uninstalled and the computer restarts.

Uninstalling Deep Freeze via Deep Freeze Remote

Complete the following steps to uninstall Deep Freeze via Deep Freeze Remote:

1. Select the computers from the Computers pane and click *Uninstall*.

2. Select *Retain Existing ThawSpace(s) As-is* to retain the ThawSpaces. Select *Delete Existing ThawSpace(s)* to delete all the ThawSpaces on the selected computer.

3. Click *Uninstall*.

4. Select if you want to *Allow users to save files and restart*, *Restart immediately (changes to unsaved files will be lost)* or *Don't restart* (the action will take effect only after a restart).

5. Click *OK*.

For more information, refer to Using Deep Freeze Remote.

Uninstalling Deep Freeze via Deep Freeze Tasks

Complete the following steps to uninstall Deep Freeze via Deep Freeze tasks:

1. Start ARD.

2. Go to Deep Freeze folder.

3. Double-click *Uninstall*. The task dialog is displayed.

4. Go back to the main ARD window. Select the list of computers from which you want Deep Freeze uninstalled.

5. Drag and drop the computers to the task.

6. Click *Send*.

Deep Freeze is uninstalled from the selected computers.

To retain existing ThawSpace(s) you can use the *uninstallKeepThawSpace* command via Deep Freeze tasks. For more information, refer to Using Deep Freeze Tasks.