



Deep Freeze Mac and Apple Remote Desktop

Technical Paper

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Introduction

This technical paper explains how to integrate Deep Freeze Mac with Apple Remote Desktop (ARD).

Overview

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

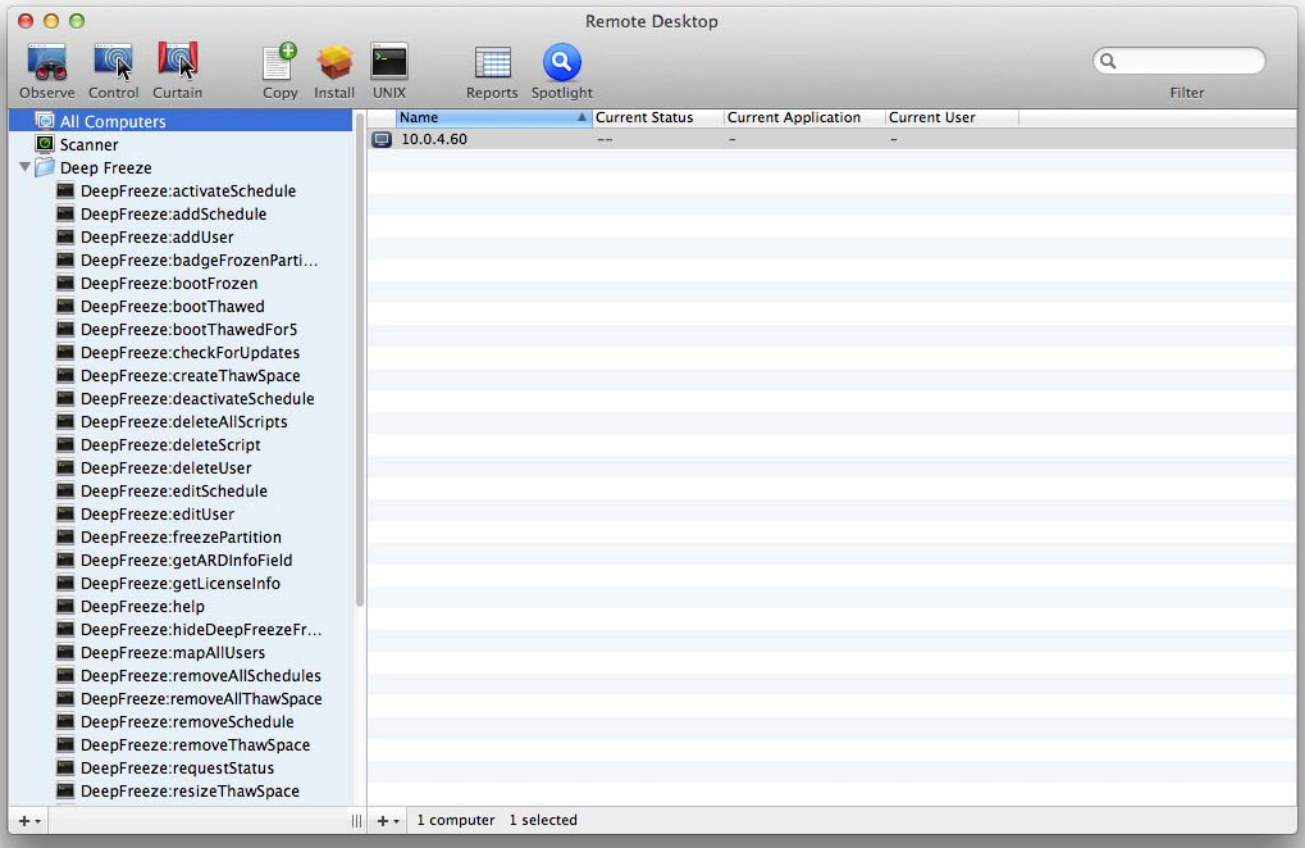
Requirements

Deep Freeze Mac and Apple Remote Desktop must be installed on the computer.

Using Deep Freeze Tasks

Deep Freeze Mac provides multiple Tasks that can be deployed using ARD.

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.

Command	Argument	Description
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 "on" "off"] [-m "off" 5-999] [-m "message string"] [-s "on" "off"] [-r "off" "script name"]	<p>Adds a schedule.</p> <p>24-hr-time is in the form of HH:MM.</p> <p>Multiple days is only for repeating schedules.</p> <p>When specifying multiple schedules, there should be no space between the days specified.</p>
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.

Command	Argument	Description
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.
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.

Command	Argument	Description
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.
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.

Command	Argument	Description
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 computers for the task must be specified.
- The target computers 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).

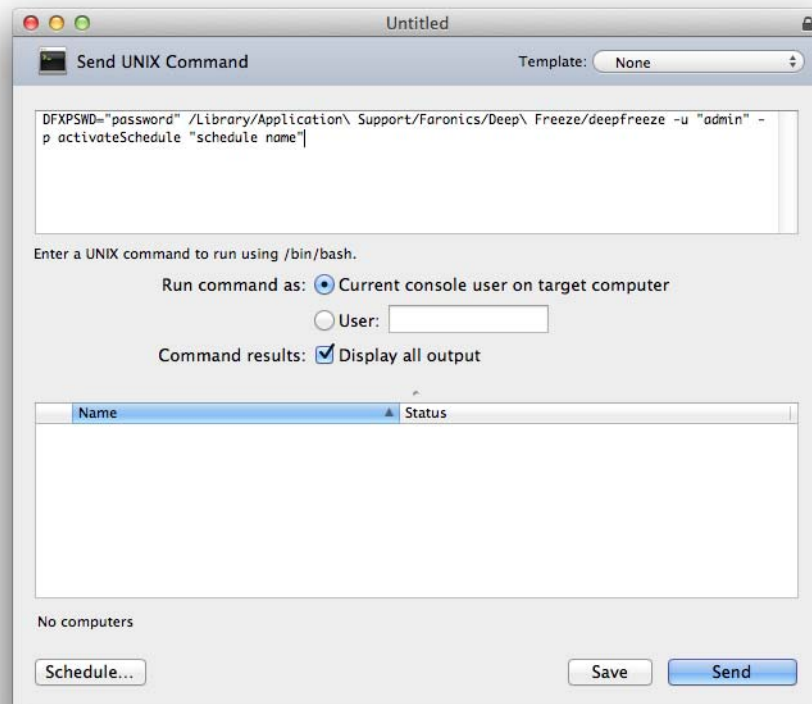
SCHEDULE 1: ENABLED (Schedule 2)
SCHEDULE IS SET FOR Sat, Sun FROM 14:00 TO 16:00
IN MAINTENANCE: FALSE
FREQUENCY: REPEATING
INSTALL UPDATES: TRUE
RUN SCRIPT: FALSE
TAKE OVER MACHINE: FALSE
SHUTDOWN AFTER: TRUE
SHOW MESSAGE: FALSE

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"
```