

FARONICS

DEEPFREEZE™

ABSOLUTE Workstation Integrity

## Deep Freeze - Retaining User Data

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TECHNICAL WHITEPAPER

Last modified: May 19, 2010

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## Overview

Many desktop administrators face challenges with maintaining the configuration of their workstations in a production environment. From users making unauthorized changes on the workstations to viruses and malware, there are a large number of exploits that can leave workstations in a non-functional state. Many system administrators are turning to the use of reboot to restore applications to maintain their workstations and are finding during their testing process that the retention of user data on the local workstation is a stumbling block in the deployment of such products.

This document will outline the suggested means to implement a reboot to restore application like Faronics Deep Freeze in such a way that user data is properly retained.

## The Frozen Environment

Deep Freeze is a solution that ensures client workstations remain in a consistent state after every reboot. Deep Freeze has two states: Frozen and Thawed. In a Thawed state, any changes made to a computer are retained after a reboot. In a Frozen state, any changes can be made during a user session, but after a reboot, these changes will disappear.

With Deep Freeze installed, it is very easy to set up a computer on which no changes are saved. However, there are some cases where data needs to be saved locally; perhaps the user needs to be able to save email locally, or maybe an application requires data to be stored locally.

With the information in this document, a computer can be configured to allow certain changes to be retained after a reboot, even when the computer is in a Frozen state.

## Storage Solutions

The following solutions describe different methods available to configure a Thawed area (any information saved into a Thawed area is retained after a reboot).

### Network Drive

Deep Freeze does not put network drives into a Frozen state. By offering the user a place to save data off the local computer, nothing special needs to be configured on the client computers themselves.

However, there are cases where this option is not viable. Sometimes, the computer is not connected to the network, or an application saves user data locally. In these cases, this solution is not appropriate.

### Thawed Partitions

A Thawed partition is a physical partition configured not to be Frozen. Using this solution, it is assumed the computer has at least two physical partitions. In Deep Freeze Standard, the option to select which physical partitions are to be Frozen appears during the install. In Deep Freeze Enterprise, this option is configured before creating the workstation install file (in the Configuration Administrator go to *Drives* tab). Make sure Deep Freeze is not installed prior to adding, deleting or modifying partitions.

### ThawSpace

In some cases, the client computer does not already have a separate physical partition configured. In this case, the Deep Freeze workstation install file can be configured to use a ThawSpace. ThawSpace is not available in Deep Freeze Standard; it is only available in Deep Freeze Enterprise. When configuring a ThawSpace using the Configuration Administrator, select the drive letter (default is *T:*), the size, and the file system to be used.

A ThawSpace is a virtual partition. When the workstation is installed, another drive letter appears in Windows Explorer (if the Visibility has been set as *Visible* in *Drives* tab of the Configuration Administrator). Any data saved to this virtual partition is retained when the computer is rebooted. For more information about creating and configuring a ThawSpace, refer to the Deep Freeze Enterprise user guide.

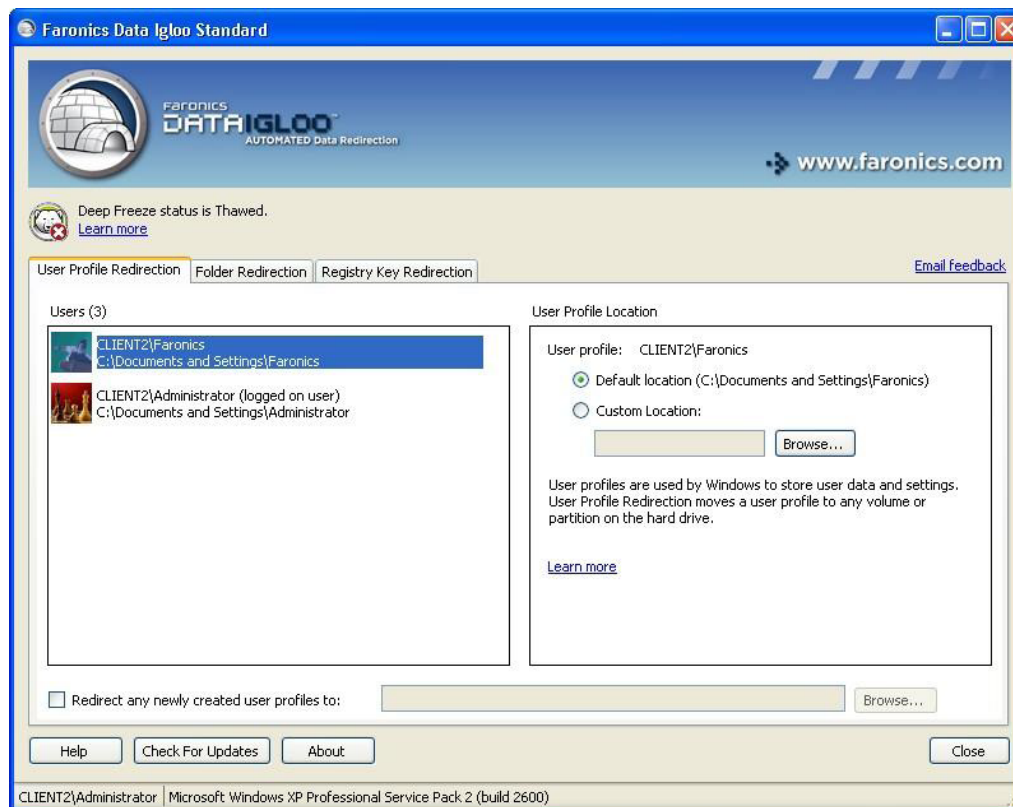
## Redirecting User Profiles and Folders using Data Igloo

Faronics Data Igloo allows administrators to redirect user profiles and folders to a *Thawed* volume on your computer. Redirecting data in this manner ensures that the data being redirected is retained even after a reboot when the computer is protected by Deep Freeze. Faronics Data Igloo can be downloaded from <http://www.faronics.com/dataigloo>.

### Redirecting User Profiles with Data Igloo

The redirection of user data normally involves the redirection of the user's entire profile to a *Thawed* volume. When dealing with user profiles, there are two types of users that will need to be addressed: users who have previously logged into the computer and have an existing profile, and users who have never logged into the system and have no profile to redirect.

Any user who has logged into the computer and has an existing profile, will be shown by Data Igloo as a user on the *User Profile Redirection* tab.



Complete the following steps to redirect an existing user profile using Data Igloo:

1. Select the user profile to be redirected.
2. Click *Custom Location* and specify the path. Generally, this is a *Thawed* volume on your computer. For example, *T:\Users*.
3. Click *OK*. The selected user profile is directed to the *Thawed* volume.

Redirecting a user's entire profile to a *Thawed* volume will address the data retention requirements for

most environments where a single, or small number of users use a specific computer. In situations where systems are used by a large number of users or in one-to-one laptop deployments, a different approach is required.

For situations where the administrator does not know which user will be logging into the computer, Data Igloo has the ability to redirect all new user profiles to a *Thawed* location when a new user logs in. This approach is ideal for one-to-one laptop deployments or situations where computers are loaned to users for extended periods of time.

To redirect all new users who log into the system while *Frozen*:

1. Select the *Redirect any newly created user profiles to* check box in the *User Profile Redirection* tab.
2. Enter the path that the user profiles will be saved to. Generally, this is a *Thawed* volume on your computer. For example, *T:\Users*.
3. When prompted, select a location to store any of the user specific registry keys. This should be a *Thawed* volume on your computer, outside of the folder that contains the user profiles. For example, *T:\Registry*.
4. Once completed, any new users logging into the computer while *Frozen*, will have their user profile and registry settings redirected to the *Thawed* location specified in the previous steps.

### Roaming Profiles

Roaming profiles can be redirected using the same procedure described above. As far as Data Igloo is concerned, users with roaming profiles are treated in the same manner as users without roaming profiles.

## Mapping Data for Specific Applications

This section of the document provides guidelines for performing data mapping at an application level as opposed to retaining data based on the user context. This method of retaining user data is best approached when the user data to be retained is specific to individual applications and no other data needs to be retained on the local computer.

### Applications Saving Data to Internal Folders

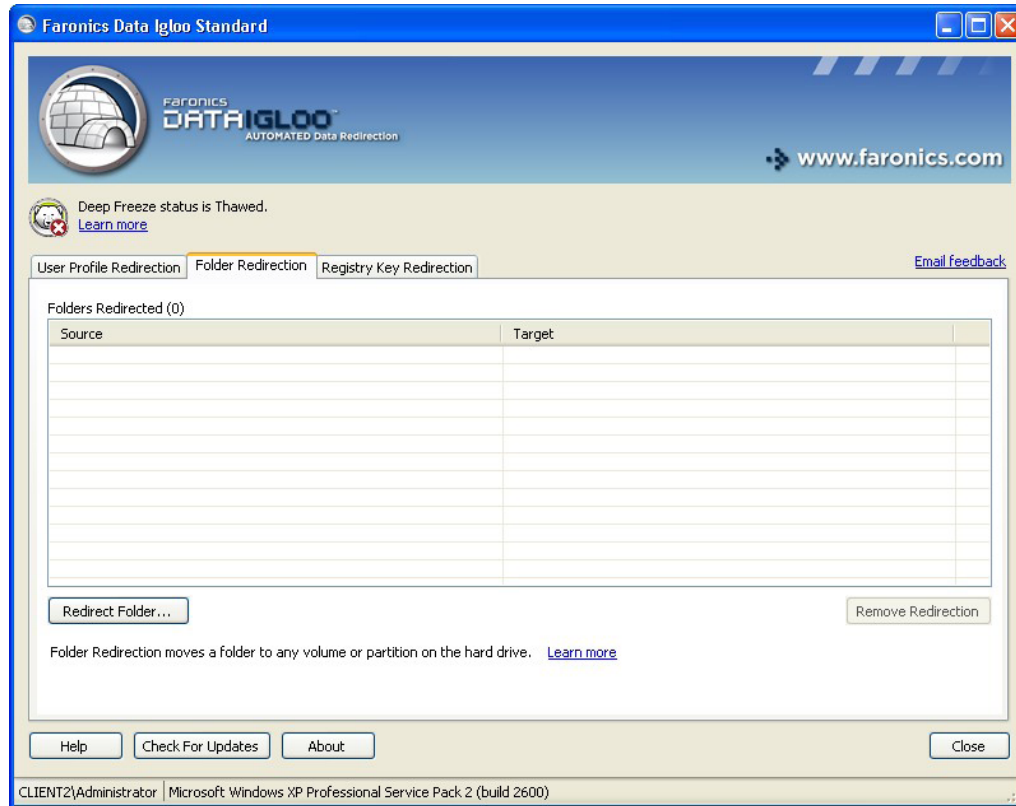
Some applications save their user data into specific folders on the hard disk and cannot be configured to save user data in any location other than the one specified by the application developers. To work around this limitation, the application data can be mapped either by installing the whole application on a *Thawed* volume, or by determining the location of the data to be saved, and moving that data with Data Igloo.

### Applications Saving Data to My Documents

Some applications retain their data in a folder under the user's *My Documents* folder. If this is the case, the information can be mapped by moving the entire user profile to a *Thawed* volume. If the user profile or *My Documents* is not being mapped to a *Thawed* partition or stored on the network, Data Igloo can be used to move data to a *Thawed* volume.

## Redirecting Folders with Data Igloo

The Folder Redirection feature of Data Igloo allows you to redirect a folder to any NTFS volume or partition on the computer.



Complete the following steps to redirect a folder from one drive to another:

1. Ensure the Deep Freeze status is *Thawed*.
2. Launch Faronics Data Igloo from *Start>Programs>Faronics>Data Igloo Standard>Data Igloo*.
3. Go to *Folder Redirection* tab. Click *Redirect Folder...*
4. In the *Create Folder Redirection* dialog, click *Browse* to select the source folder.
5. Select the source folder and click *OK*.
6. In the *Create Folder Redirection* dialog, click *Browse* to select the target folder.
7. Select the target folder and click *OK*.
8. Click *Redirect Folder*.
9. A progress bar is displayed and the folder is redirected.

## Application Updates

If an application needs to be updated, most likely changes are made to the registry. Because the registry is contained on the *Frozen* partition, these changes are lost when the computer reboots. It is best to perform updates while the computer is in a *Thawed* state or during a Maintenance period. A Maintenance period can be scheduled in the Deep Freeze Enterprise. For more information, refer to the Deep Freeze Enterprise user guide.

## Microsoft Office Auto Recovery Locations

Some Microsoft Office applications have auto recovery files, where projects being modified are automatically saved and can be recovered in case of failure. When a computer is Frozen, all documents that have been saved to this auto recovery location will be deleted. To prevent this, the auto recovery location can be modified to be redirected to a *Thawed* location on the computer.

To change the file path where documents are automatically saved in Microsoft Office applications, a series of registry settings must be configured.

### Microsoft Word 2003

Registry Path: Software\Policies\Microsoft\Office\11.0\Word\Options

Key Name: AUTOSAVE-PATH

Default Value: <user>\Application Data\Microsoft\Word

The Default Value must be changed to the path of the Thawed location on the computer.

### Microsoft Excel 2003

Registry Path: Software\Policies\Microsoft\Office\11.0\Excel\Options

Key Name: AutoRecoverPath

Default Value: %USERPROFILE%\Application Data\Microsoft\Excel

The Default Value must be changed to the path of the Thawed location on the computer.

These registry settings can either be set manually for each user through the import of registry settings or through the configuration of a Group Policy using the Office Administrative Templates available on Microsoft's website.