

The preferred choice
for **disaster recovery**
and **data backup**

TBMR

Bare Machine Recovery for TSM

User Guide For Linux

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1 Introduction

Cristie TBMR for Linux can recover a Linux machine.

It is possible to recover to the same or dissimilar hardware. It only backs up to Tivoli Storage Manager (TSM). Backups can be taken periodically, along with configuration information, which includes details of hard disks, network interfaces, etc.

This Guide shows the user how to save configurations, backup and recover a Linux machine using TBMR. More detailed information is available from `man` pages for the TBMR components.

2 System Requirements

TBMR for Linux can be installed on a x86, x86_64 or PPC Linux machine.

At the time of release the TSM Client versions supported are 5.5.0.6 to 6.3.0.0 inclusive.

At the time of release the TSM Server versions supported are 5.5.x.x to 6.3.0.0 inclusive.

Please refer to the Cristie website for the latest client/server versions supported

A minimum memory of 1GB RAM is required for booting the recovery environment and running a recovery.

3 Installation

Installation files may be downloaded from the **Cristie** website <http://www.cristie.com>, or can be found in the `linux/install` directory on the TBMR CD or ISO.

There are two available versions to support newer and older Linux distributions. The main installation files are contained in the `linux/install/main` directory.

If the system supports **Redhat Package Manager** (RPM), this is the simplest way to install TBMR.

- To install from an RPM package for x64:

```
rpm -i tbmr-6.3-4.linux.x86_64.rpm
```

If RPM is not available, the gzipped tar file may be installed as follows:

Copy the installation file to a temporary directory; so enter `cd/tmp`

```
tar xvzf tbmr-6.3-4.linux.x86_64.rpm
```

```
cd tbmr
```

```
./install
```

- To install from an RPM package for x86:

```
rpm -i tbmr-6.3-4.linux.x86.rpm
```

If RPM is not available, the gzipped tar file may be installed as follows:

Copy the installation file to a temporary directory; so enter `cd/tmp`

```
tar xvzf tbmr-6.3-4.linux.x86.rpm
```

```
cd tbmr
```

```
./install
```

4 Setting Up A Backup Location

This section details how to setup a Backup Location.

Please see the following topics:

[Setup TSM BA Client](#)

[Saving Configuration](#)

[TBMRCfg](#)

4.1 Setup TSM BA Client

If the backup is to be written using TSM BA client, the BA client `dsm.sys` file should be configured.

The default location for TSM API client setup file is:

```
/opt/tivoli/tsm/client/ba/bin/dsm.sys
```

This file should be edited to point to the TSM server to be used:

```
SERvername server_a
    COMMmethod      TCPip
    TCPPort         1500
    TCPServeraddress 10.2.1.20
```

The TSM BA client should be configured to backup all files which are required for OS recovery. By default, the `/dev` directory is **not** backed up. To make sure this is backed up, the following line should be added to the `dsm.sys` file:

```
virtualmountpoint /dev
```

This will create a separate filesystem for `/dev` which will be restored by the recovery environment.

4.2 Saving Configuration

Configuration information, including details of disks, networks etc, must be saved for each machine to be recovered. This may be saved to the backup location, to USB disk for each machine, or to a central configuration store located on a network share.

When saving configuration information to the backup location, this must be done **before** the backup is run.

To save the configuration information for each machine, a command line program `tbmrcfg` may be used.

4.3 TBMRCfg

To use the command line configuration saving program, type `tbmrcfg` followed by the required options.

The available options to `tbmrcfg` can be shown using:

```
tbmrcfg -?
```

Some examples are shown here:

To save configuration information from a machine that boots using *grub* installed on `/dev/sda` to the backup location, use:

```
tbmrcfg
```

To save configuration information from a machine that boots using *grub* installed on `/dev/hda`, use:

```
tbmrcfg -d /dev/hda
```

There is a full manual page for *tbmrcfg* available by typing `man tbmrcfg`.

5 TSM BA Client Backup

The backup may be performed using the command line TSM BA Client dsmc or the GUI interface. Please refer to your TSM User Manual for further instructions.

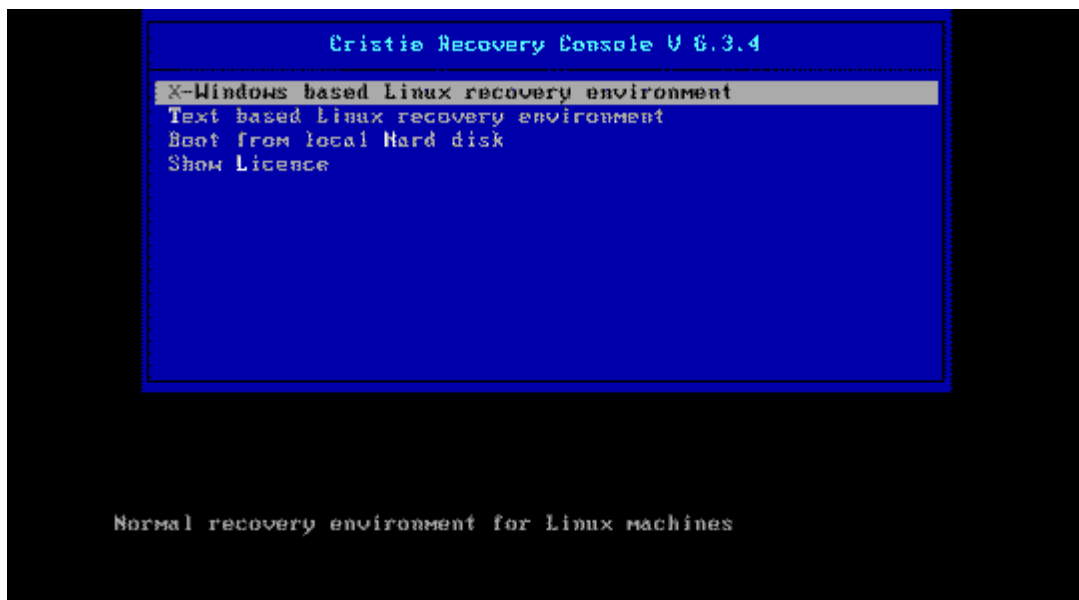
6 Recovery Procedure

When a machine has crashed, it can be recovered using the TBMR bootable CD-ROM. This is the same CD from which you installed the software. You should ensure your machine's BIOS is set up to boot from CD-ROM.

The process encompasses the following stages:

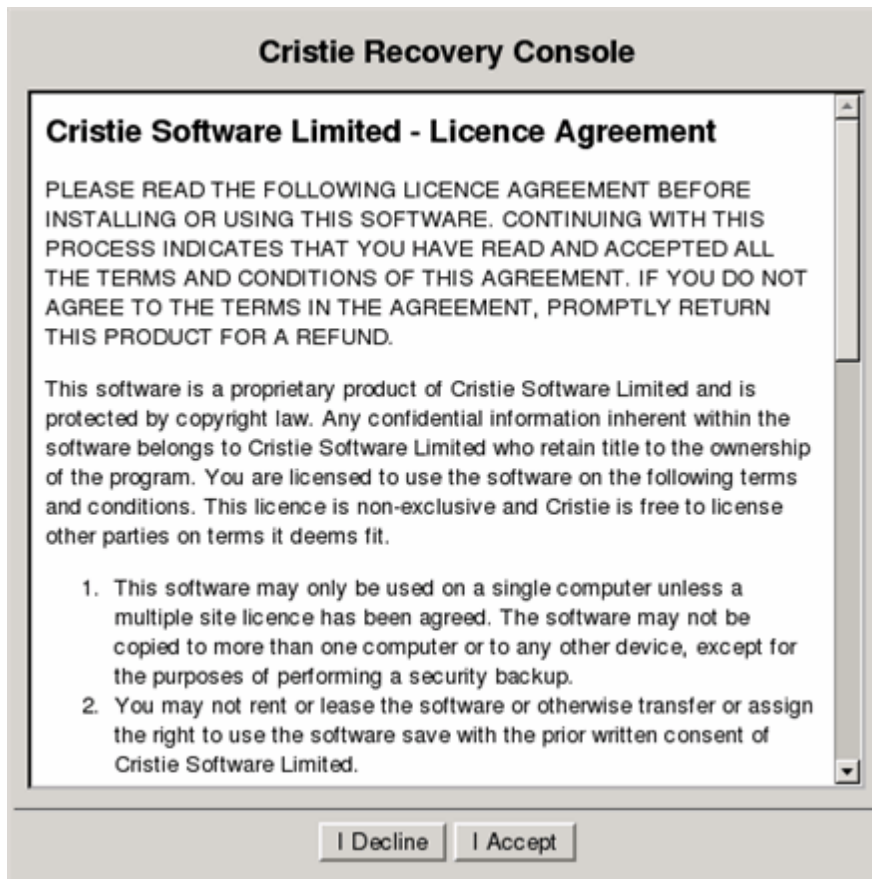
- **Boot** into Recovery OS
- **Read** Configuration Data
- **Restore** Files
- **Load** additional drivers (if necessary)
- **Reboot** into recovered OS

Boot the machine using the TBMR bootable CD ROM or ISO. You will be presented with the screen below:

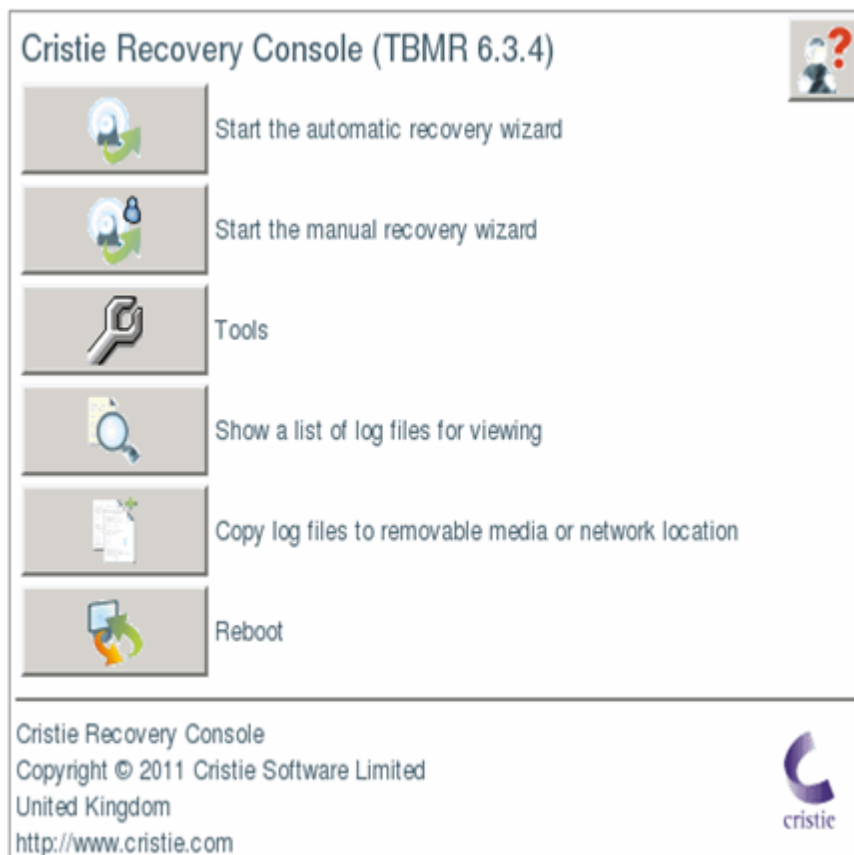


Cristie recommend that you choose the graphical X-Windows recovery environment mode which loads the **Cristie Recovery Console** (CRC).

You will be presented with the **Licence** screen. Click **Accept** if you agree with the TBMR licencing terms.

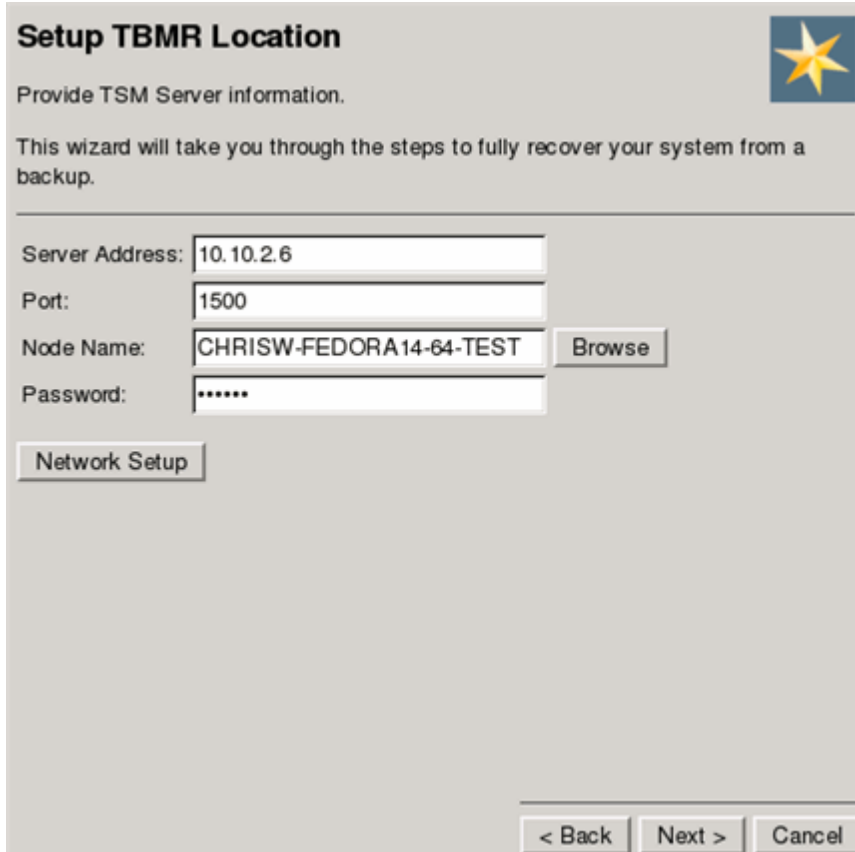


You will then see the [Recovery Console](#) main menu:



The quickest way to begin the recovery is by selecting the [Auto Recovery Wizard](#) option from the [Recovery Console](#) main menu.

You will initially need to provide your TSM Server information:



Setup TBMR Location

Provide TSM Server information.

This wizard will take you through the steps to fully recover your system from a backup.

Server Address:

Port:

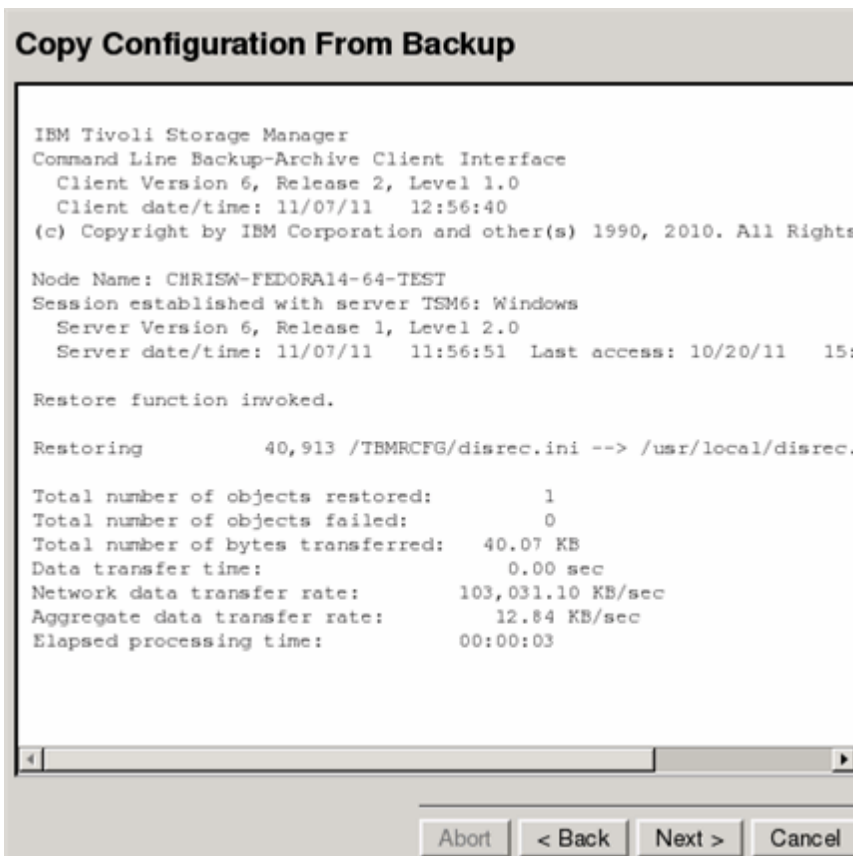
Node Name:

Password:

To select your chosen node, select [Browse](#).

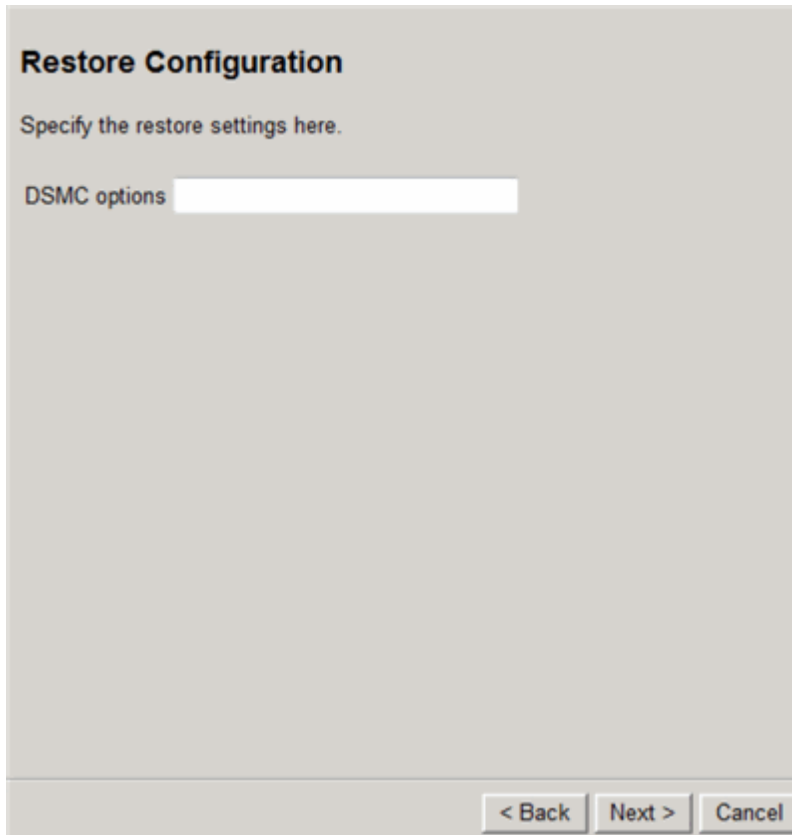


Once selected, click [Close](#) to return to the [Setup Location](#) menu. Select [Next>](#) to proceed.



Select [Next>](#) to proceed.

Next the **Restore Configuration** dialogue will be shown.



Restore Configuration

Specify the restore settings here.

DSMC options

< Back Next > Cancel

Typically, nothing needs to be entered under DSMC options. If you do need to enter any parameters, it will probably be the standard TSM options. Any parameters entered will be passed to DSMC. Please consult your TSM User Manual for details.

7 Start the Recovery

To begin your recovery, click [Next>](#) on the **Start Recovery** menu:



Start Recovery

Specify the restore settings here.

DSMC Options

Dissimilar Hardware For recovering to different machine types

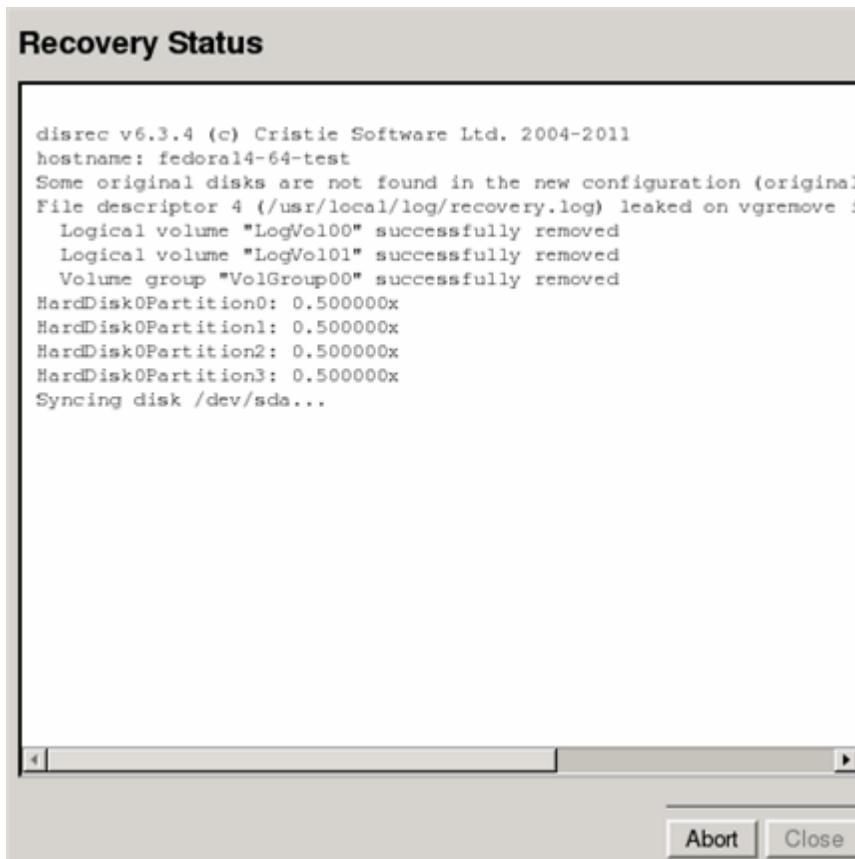
Verbose Logging For support and problem solving purposes

Stop On Warnings Stop recovery if a non fatal warning occurs

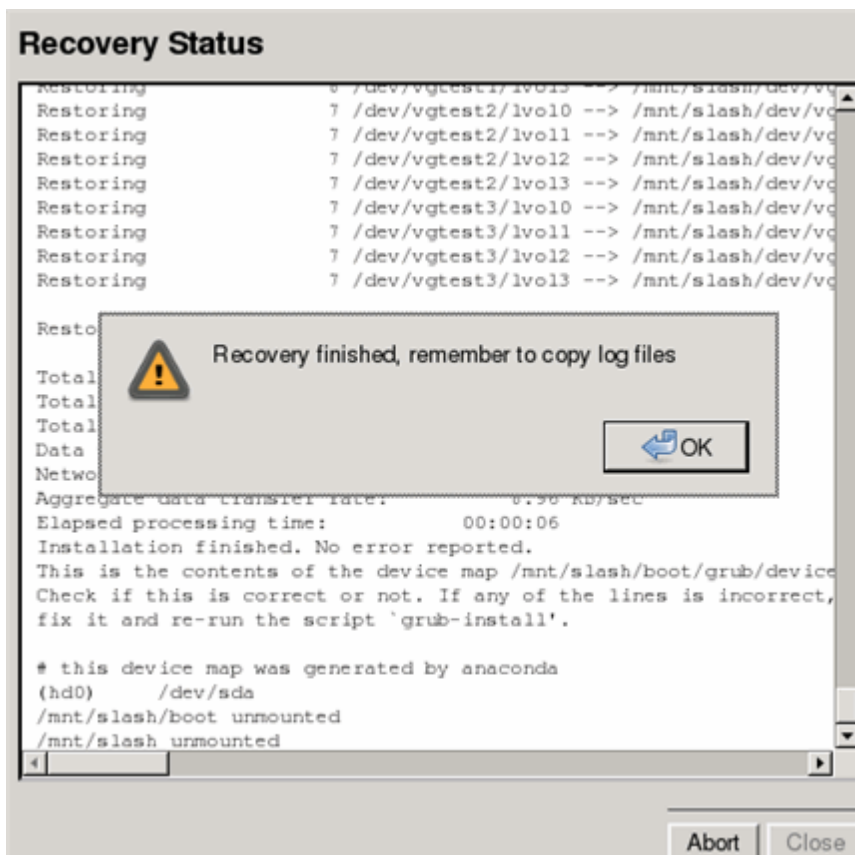
Recovery Options

Machines to recover 127.0.0.1 (This machine)

The recovery will then commence.

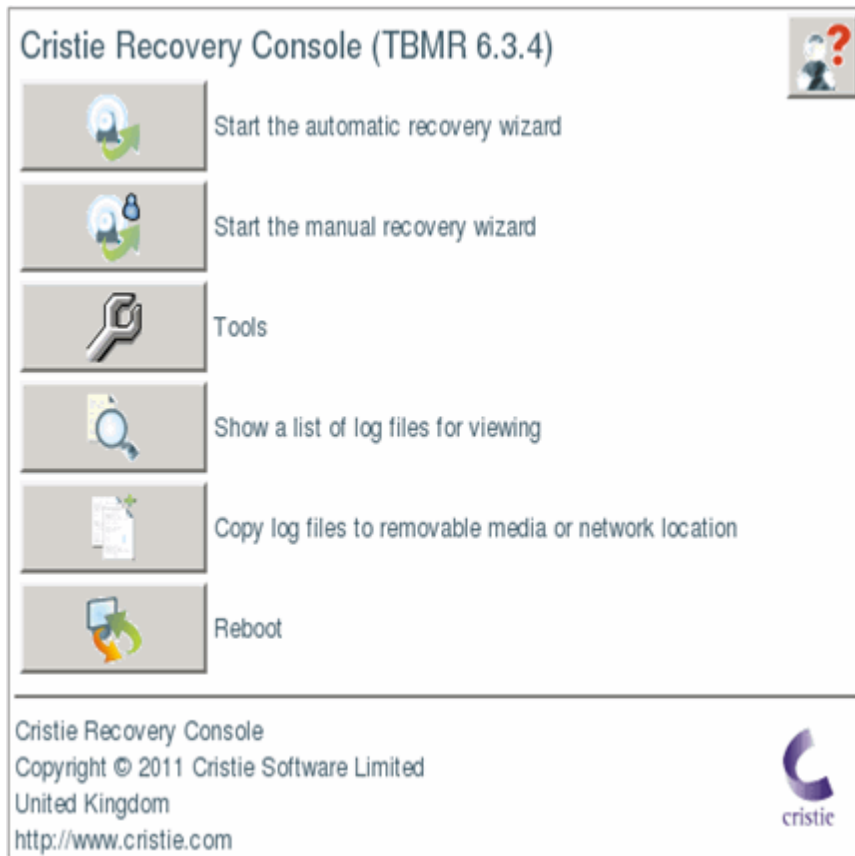


When the recovery has completed, it will prompt you to copy the log files:



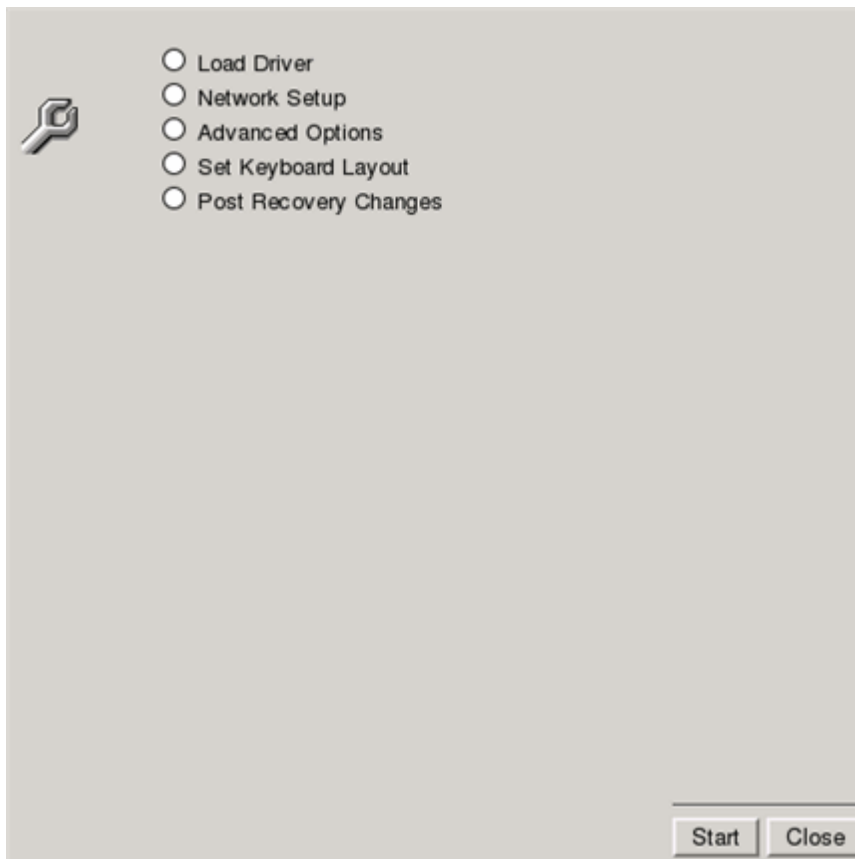
Cristie recommends that the log files are always saved. If the machine fails to boot after the restore, Cristie Support will require copies of the log files to diagnose any problems.

Select **OK** to return to the Main Recovery menu.



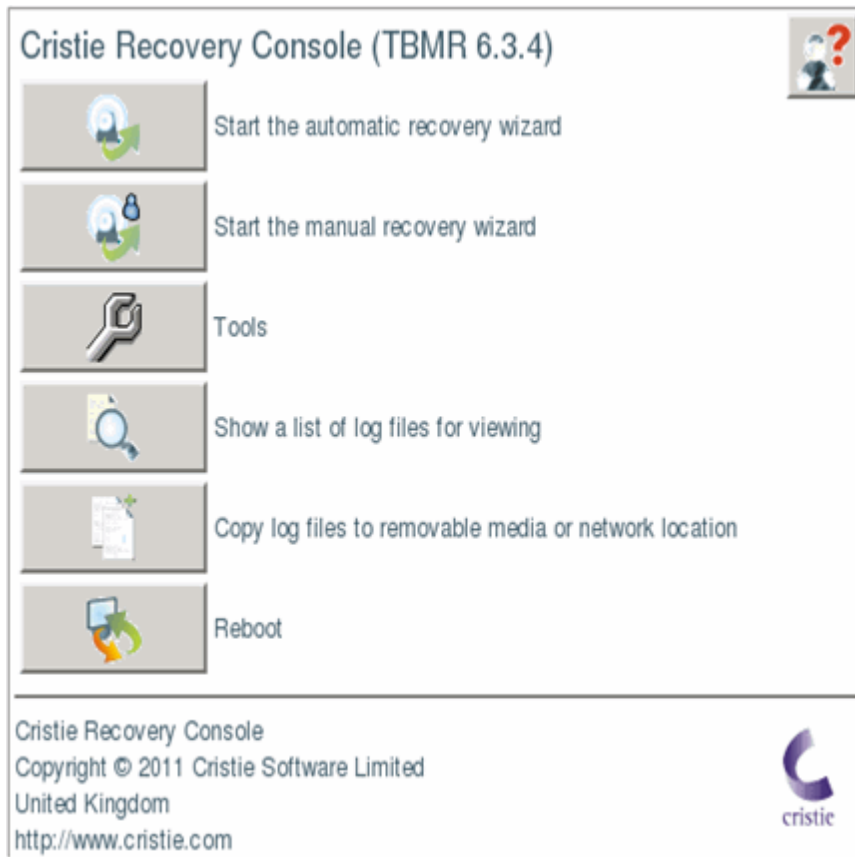
Post Recovery Changes

If you wish to change the Network Settings in advance of rebooting, select **Tools** from the Main Menu, then **Post Recovery Changes**:



Enter the required settings or hostname and save your changes.

You will now return to the [Cristie Recovery Console](#) main menu.



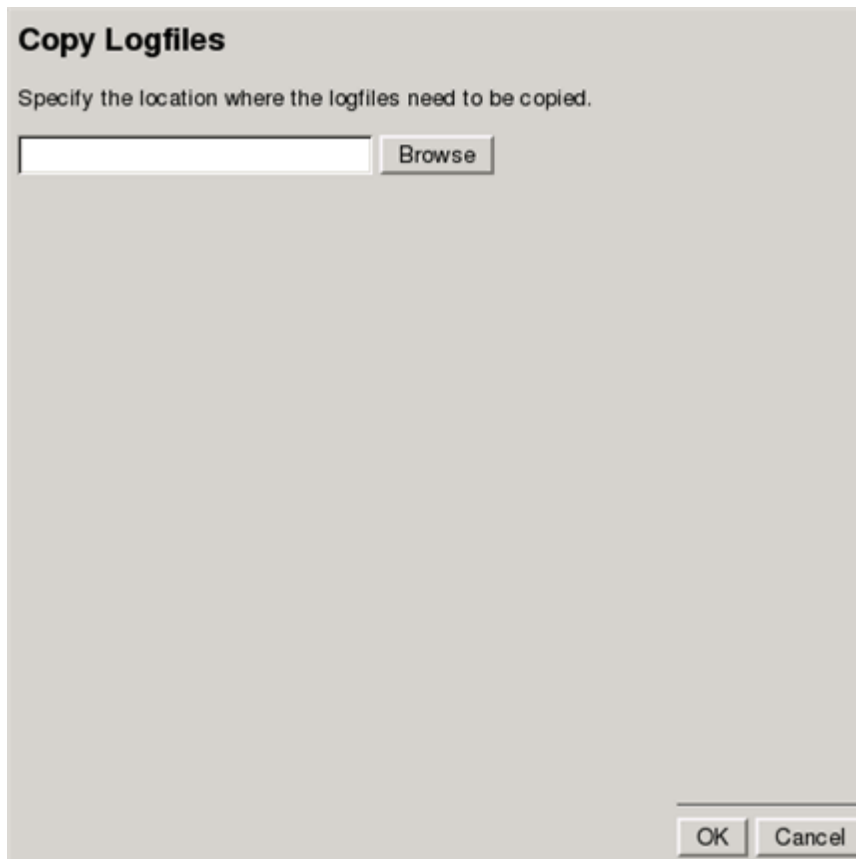
Copy Log Files

You should now copy your log files to a separate location where they can be accessed.


Note: log files are essential if you require support from Cristie. They detail exactly what has happened during the recovery on your system. Without them, it is very difficult for Cristie to offer meaningful support.

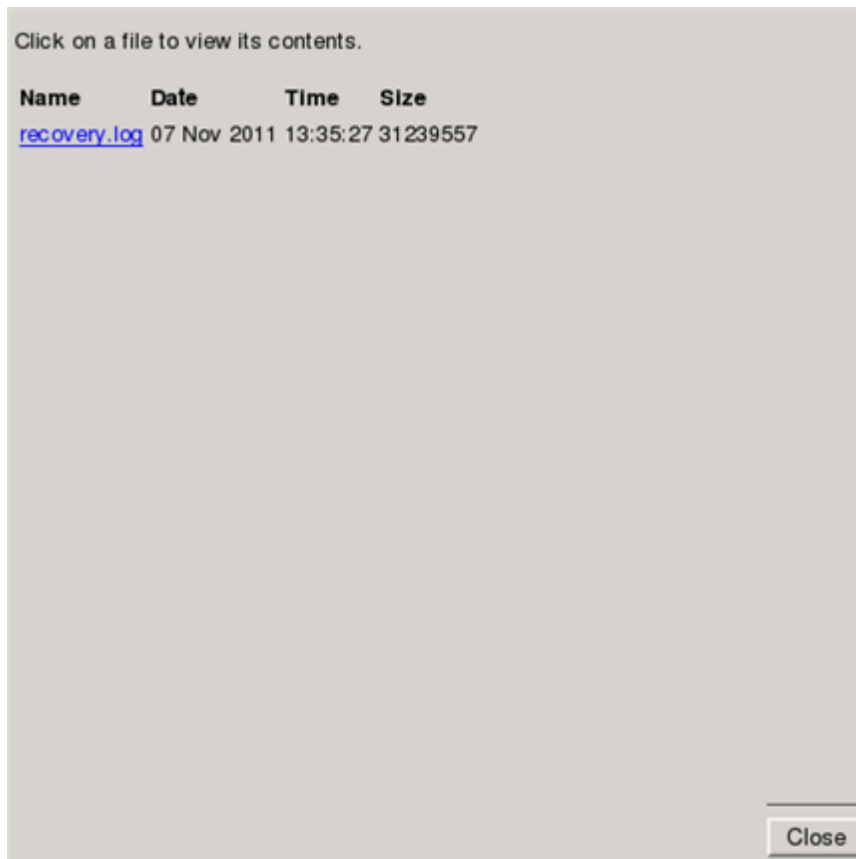
Select the [Copy Log Files](#) button from the [Cristie Recovery Console](#) main menu.

Click [Browse](#) to select a location to copy the log files to.




Ensure this is a location which can be easily accessed in case there is a need to email the log files to Cristie for support purposes.

To view log files, select the  icon from the Main Menu. This will display the list of logfiles:



Click on the log you wish to view. Check the summary information at the bottom of the recovery status report for any errors.

Click [Close](#) to finish.

You should now restart the recovered machine by clicking  on the **Cristie Recovery Console** menu.

8 Cristie Technical Support

If you have any queries or problems concerning your Bare Machine Recovery for TSM product, please contact **Cristie Technical Support**. To assist us in helping with your enquiry, make sure you have the following information available for the person dealing with your call:

- TBMR Version Number
- Linux Distribution
- Any error message information (if appropriate)
- Description of when the error occurs

Contact Numbers - Cristie Software (UK) Limited

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Web www.cristie.com

Support Hours

05:00 to 17:00 Eastern Standard Time (EST) Monday to Friday

Out-of-Hours support available to customers with a valid Support Agreement - Severity 1 issues* only

UK Bank Holidays** classed as Out-of-Hours - Severity 1 issues only.

**Severity 1 issues are defined as: a production server failure, cannot perform recovery or actual loss of data occurring.*

***For details on dates of UK Bank Holidays, please see www.cristie.com/support/*

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