

TBMR for Linux 6.1.2

Quick Start Guide

March 2009

Cristie Data Products Ltd.
New Mill
Chestnut Lane
Stroud GL5 3EH
United Kingdom

Tel:+44(0)1453 847000
Fax:+44(0)1453 847001

Cristie Nordic AB
Gamla Värmdövägen
SE-131 37 Nacka
Sweden

Tel:+46 (0) 8 718 43 30
Fax:+46 (0) 8 718 53 40
cbmr@cristie.se

Cristie Data Products GmbH
Nordring 53-55
63843 Niedernberg
Germany

Tel: +49 (0) 6028 97 95-0
Fax: +49 (0) 6028 97 95-7 99 cbmr@cristie.com
cbmr@cristie.de

www.cristie.com

Contents

DESCRIPTION	3
SYSTEM REQUIREMENTS	3
INSTALLATION	3
SETTING UP A BACKUP LOCATION.....	4
<i>SETUP TSM BA CLIENT</i>	4
SAVING CONFIGURATION.....	4
<i>TBMRCFG</i>	4
BACKING UP	6
<i>TSM BA CLIENT BACKUP</i>	6
RECOVERY.....	6
<i>LOAD HARDWARE DRIVERS</i>	7
<i>ACCESS CONFIGURATION</i>	8
<i>FROM REMOTE SHARE</i>	9
<i>SETUP NETWORK</i>	9
<i>SETUP REMOTE SHARE</i>	10
<i>SELECT CONFIGURATION</i>	11
<i>FROM LOCAL DEVICE</i>	11
<i>SETUP LOCAL DEVICE</i>	12
<i>READ CONFIGURATION FROM LOCAL DEVICE</i>	12
<i>FROM TSM BA CLIENT BACKUP</i>	13
<i>SETUP NETWORK</i>	13
<i>SETUP TSM SERVER</i>	14
<i>READ CONFIGURATION FROM TSM</i>	14
<i>TEST BACKUP LOCATION</i>	15
<i>RECOVERY MACHINE</i>	15

Description

Cristie Bare Machine Recovery for IBM Tivoli (TBMR) for Linux can recover a Linux machine in the event of a disaster. It is possible to recover to the same or dissimilar hardware. Command line and GUI interfaces are available. Backups can be taken periodically along with configuration information which includes details of hard disks, network interfaces, etc. This quick start guide shows the user how to configure backup locations, save configuration, backup and recover a Linux machine using TBMR. More detailed information is available from man pages for the TBMR components.

System Requirements

TBMR for Linux can be installed on a x86, x86_64 or PPC Linux machine with glibc \geq 2.2. If using TSM, the system should have TSM API client version \geq 5.1 already installed. For TBMR backups, TSM BA client should be installed. Recovery requires at least 128MB RAM.

Installation

Installation files may be downloaded from Cristie website at <http://www.cristie.com> or can be found in the `linux/install` directory on the TBMR CDROM. There are 2 available versions to support newer and older Linux distributions. The main installation files are contained in the `linux/install/main` directory and the installation files for older distributions are contained in `linux/install/compat`. There are `readme.txt` files in both directories explaining which common distributions are supported by which files.

If the system supports Redhat Package Manager (RPM), this is the simplest way to install TBMR. To install from an RPM package:

```
rpm -i tbmr-xxx.xxx.rpm
```

To uninstall the RPM package, use

```
rpm -e tbmr
```

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

Copy the installation file to a temporary directory.

```
tar xvzf tbmr-xxx.linux.xxx.tar.gz
cd tbmr
./install
```

This will install all the relevant files and licences. To uninstall the package, use the `install` script with `-u` option.

TBMR is installed with a 30 day trial licence. To extend this licence, contact Cristie at cbmr@cristie.com.

Setting Up A Backup Location

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 filespace for `/dev` which will be restored by the recovery environment.

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 a unique floppy disk or memory key 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.

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 -?
```

```
tbmrcfg vx.xx (c) Cristie Software Ltd. 2004-2008
```

```
Usage: tbmrcfg [options]
```

```
Options:
```

```

-a[dir]                Add files to backup (default dir /TBMRCFG)
-b<name>, --bootloader=<name>  Set boot loader to <name> (default is lilo)
-c<dir>, --copyto=<dir>        Copy files to <dir>/<hostname>
-d<name>, --bootdevice=<name>  Set boot device name to <name>
-f, --floppy              Copy required files to floppy disk
-l<file>, --logfile=<file>     Set log file (default is tbmrcfg.log)
-o<file>, --output=<file>     Set output file (default is discrec.ini)
-v, --verbose              Verbose mode
--disshw=<n>               Use dissimilar hardware support if n != 0
--filedev_mount_options=<string> Set file device mount options
--filedev_mount_target=<string> Set file device mount target
--floppy_device=<string>      Set the floppy disk device node
--floppy_mount=<string>      Set the floppy disk mount point
--format_pattern=<pattern>   Only format devices matching pattern
--partition_pattern=<pattern> Only partition devices matching pattern
--licence=<licence>         Use licence code <licence>
-?, --help, --usage        Print this message and exit

```

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 -b grub -d /dev/sda
```

To save configuration information from a machine that boots using *grub* installed on */dev/hda* to an NFS mounted share */nfs/configs*, use:

```
tbmrcfg -b grub -d /dev/hda -c /nfs/configs
```

To save configuration information from a machine that boots using *grub* installed on */dev/sda* to a removable disk device */dev/sdc* which can be temporarily mounted at */mnt/tmp*, and backs up to a file location mounted using SMB in *//server/share/directory*, use:

```
tbmrcfg -f --floppy_device=/dev/sdc --floppy_mount=/mnt/tmp -b grub -d /dev/sda --
filedev_mount_target="//server/share --
filedev_mount_options="username=me,password=secret,workgroup=mygroup"
```

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

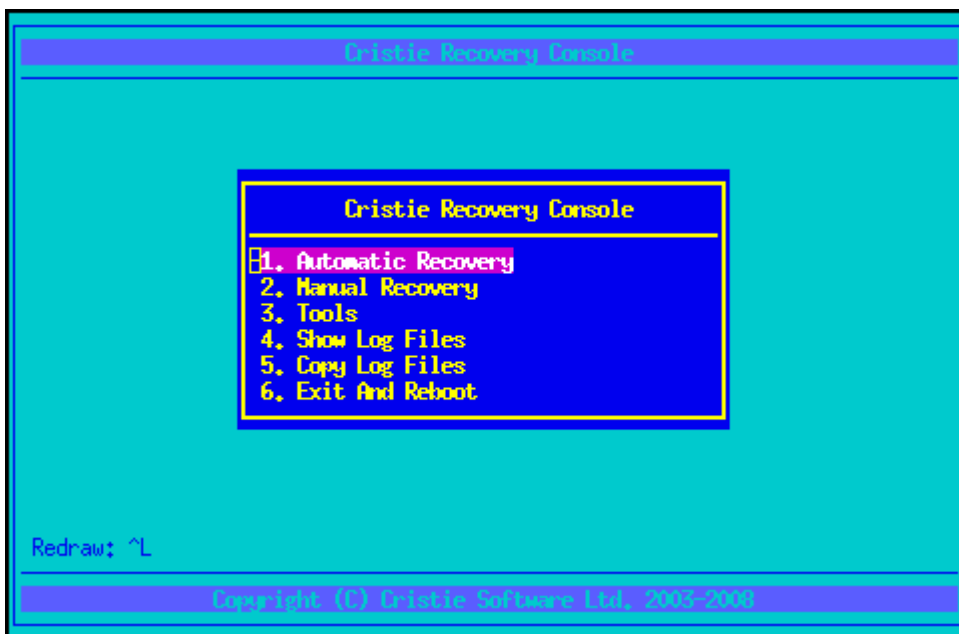
Backing Up

TSM BA Client Backup

The backup may be performed using the command line TSM BA Client *dsmc* or the GUI interface. Please consult the TSM user manual for instructions on how to do this.

Recovery

When a machine needs to be recovered it should be booted from the Cristie Recovery Console bootable CDROM. The machine's BIOS may need to be changed to boot from CDROM. Press L when the boot prompt appears and press Y to load any required drivers when prompted. Note that if the machine has access to SAN disks which should not be recovered and do not contain OS files, the drivers for these should not be loaded. The recovery console main menu should appear.



The simplest way to recover a machine is to use the *Automatic Recovery* option.



Load Hardware Drivers

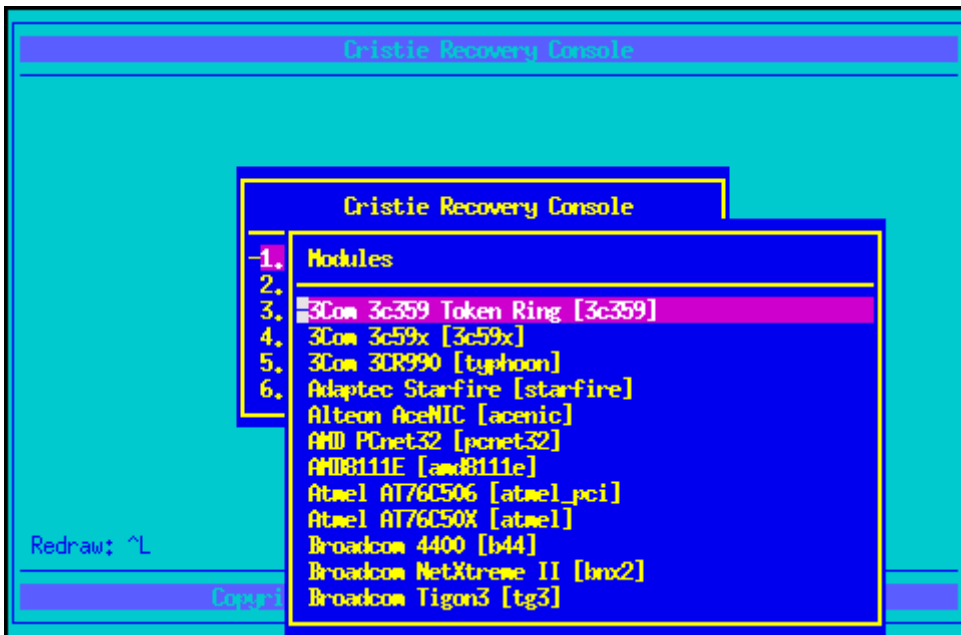
Some, but not all, device drivers are loaded automatically at boot time. If the disk controller and network drivers required for recovery were automatically detected and loaded, the *Load Hardware Drivers* option may be ignored. If further drivers are required, or modules need to be listed or removed, this option should be selected. This menu may also be used to change the keyboard layout if the recovering system does not use a standard US keyboard.



To load additional storage modules, the *Storage Modules* option should be selected from the *Load Modules* menu.



To load additional network modules, the *Network Modules* option should be selected from the *Load Modules* menu.



Access Configuration

The configuration information must be retrieved before files can be restored. The *Access Configuration* menu item should be used for this.

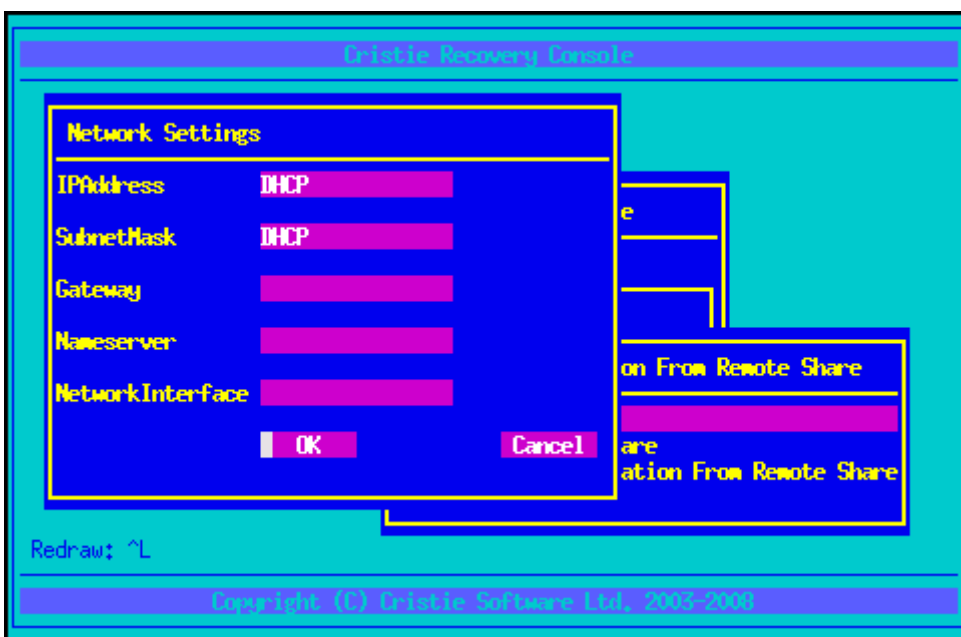


Access Configuration From Remote Share

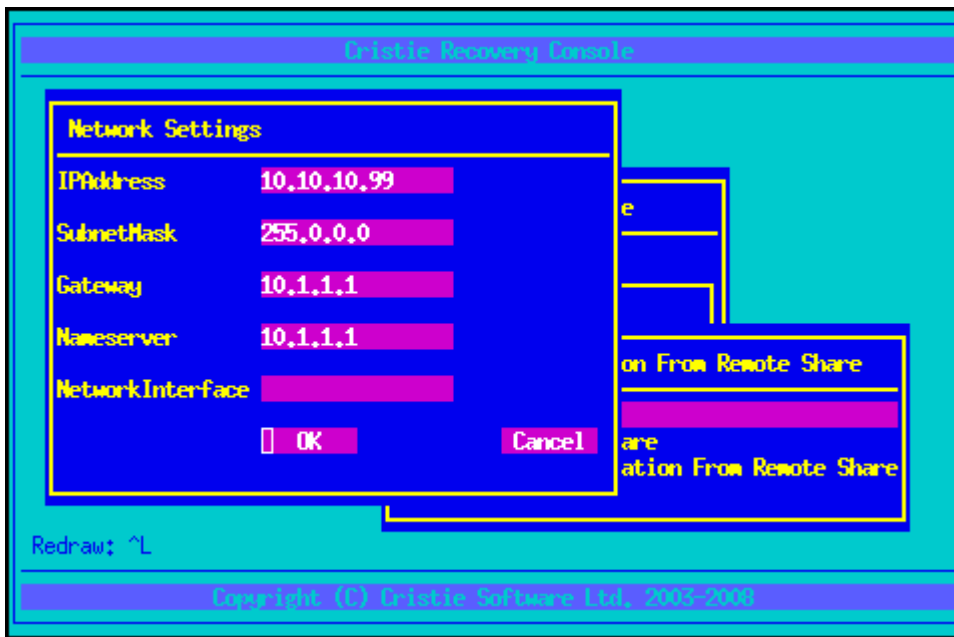
To access the configuration information from a remote share, the network must be configured and then the share mounted locally so that config files can be copied.

Setup Network

The network should be configured to allow access to the share containing configuration information. To set up the network using DHCP, DHCP should be entered into the appropriate form fields.

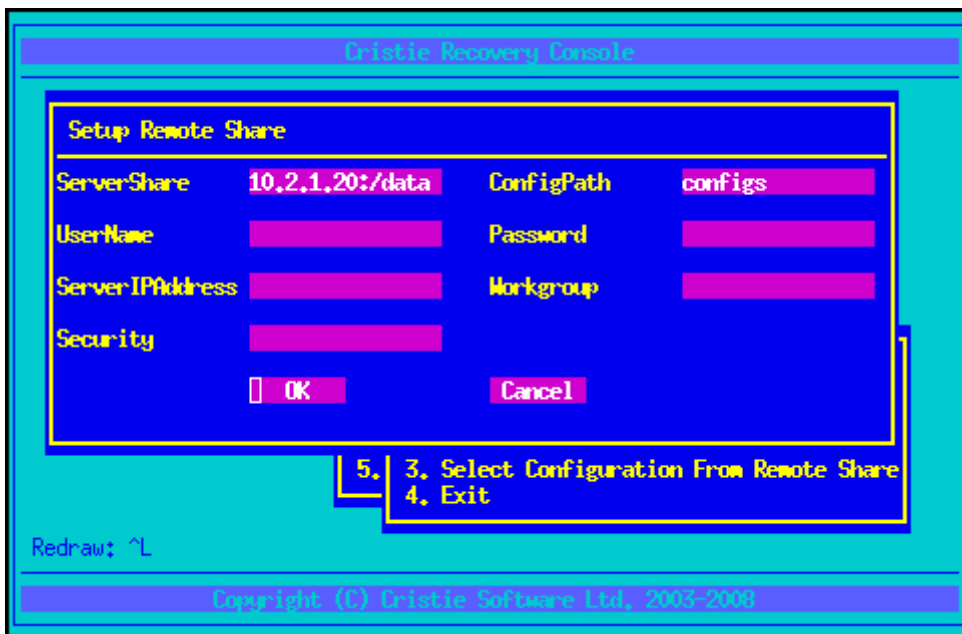


To set up the network using a static address, the network configuration information should be entered into the form.

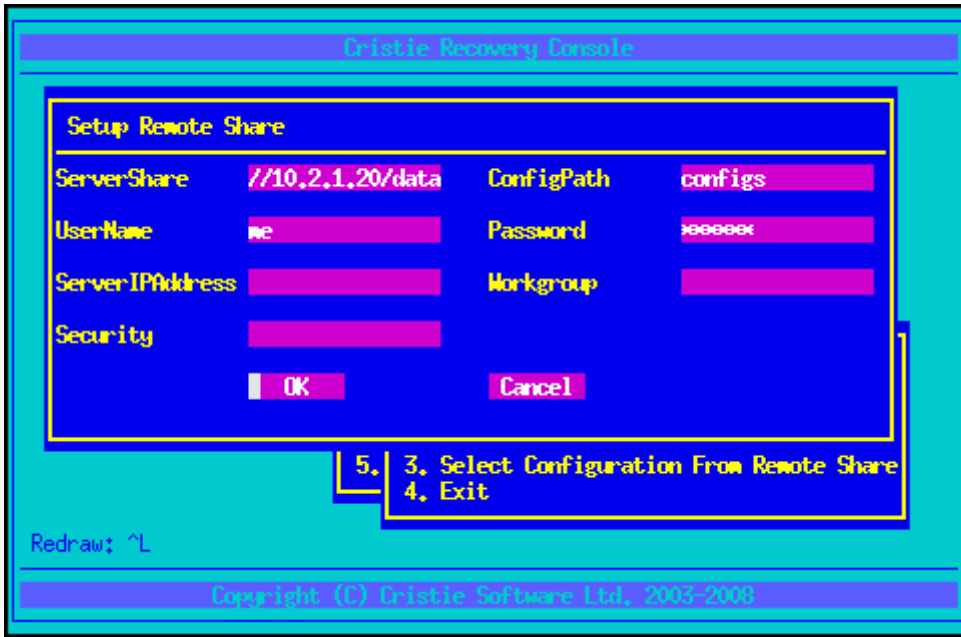


Setup Remote Share

The share details should be entered into this form to allow mounting of NFS or CIFS shares. The filesystem type is automatically determined by the format of the share name. To mount an NFS share 10.2.1.20:/data containing configuration information in a subdirectory called configs:

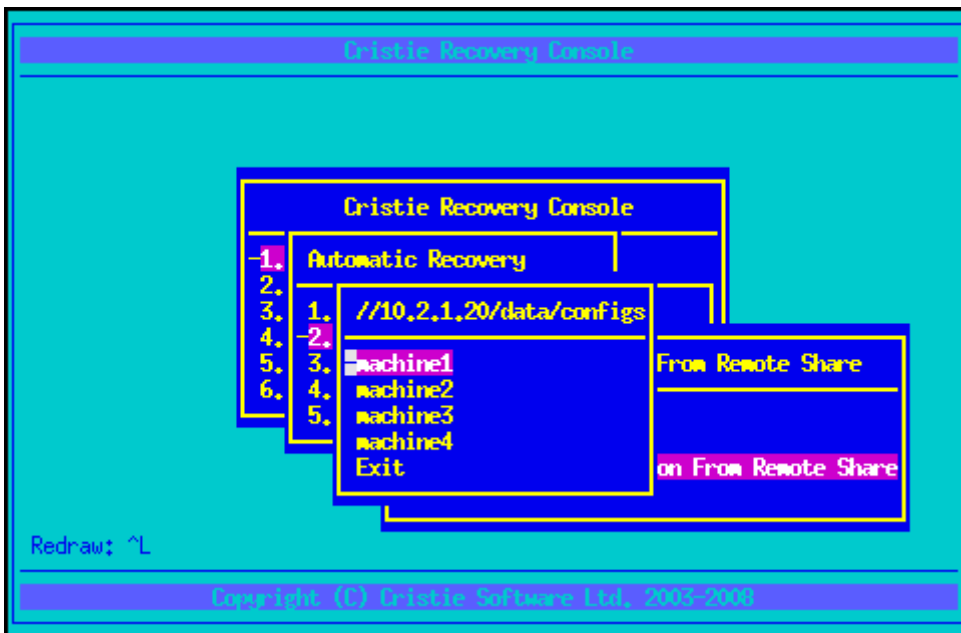


To mount a CIFS share //10.2.1.20/data containing configuration information in a subdirectory called configs:



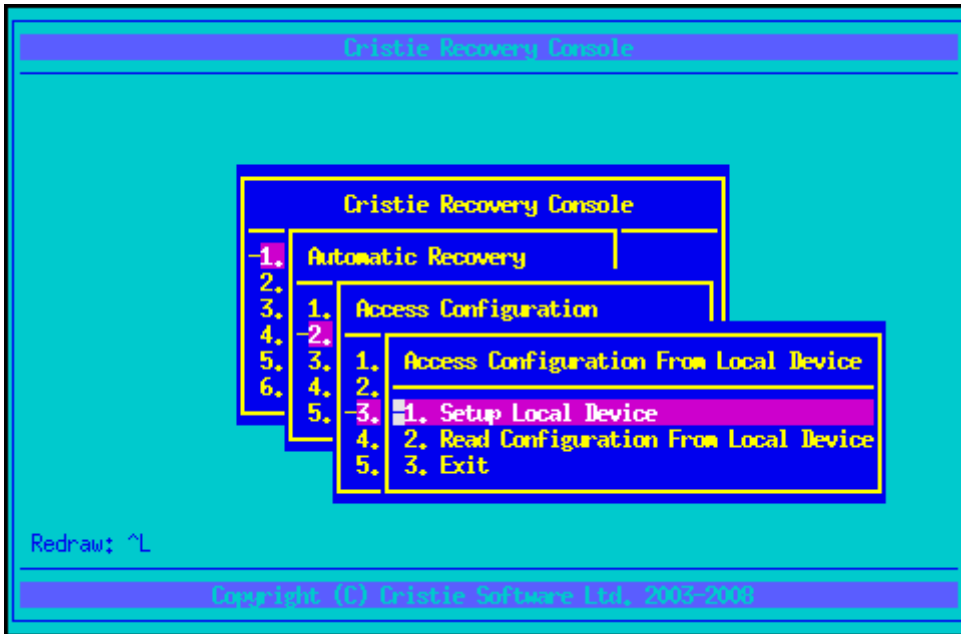
Select Configuration From Remote Share

The configuration for the machine should be selected from the list provided by the *Select Configuration From Remote Share* option.



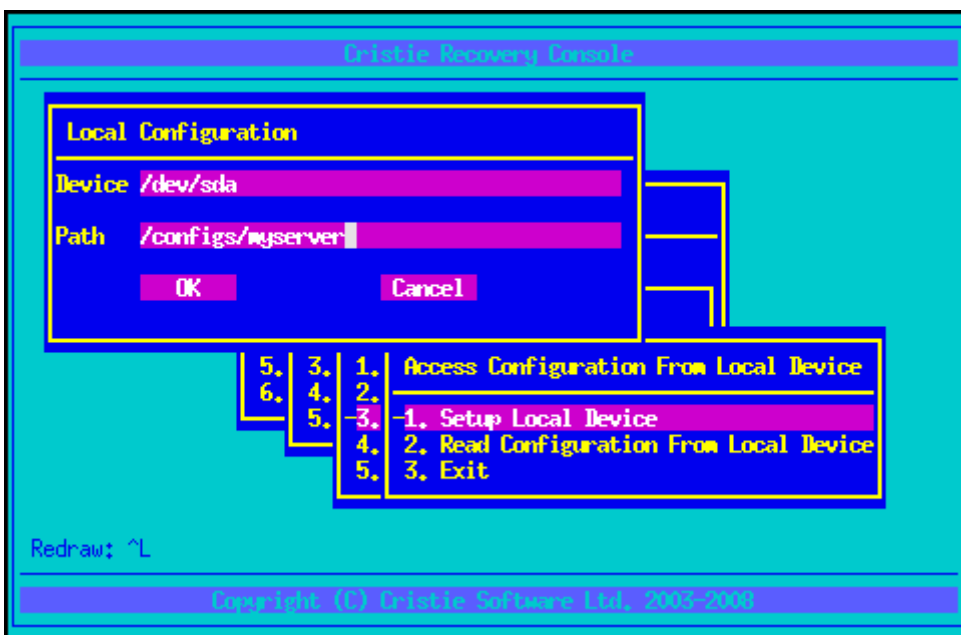
Access Configuration From Local Device

The configuration may be read from a local device eg floppy disk or memory key using this option.



Setup Local Device

The form should be used to setup the local device containing configuration details. If the configuration is stored on a floppy disk, the *Device* should be /dev/fd0, for the first USB device, use /dev/sda. The *Path* field should be relative to the device.

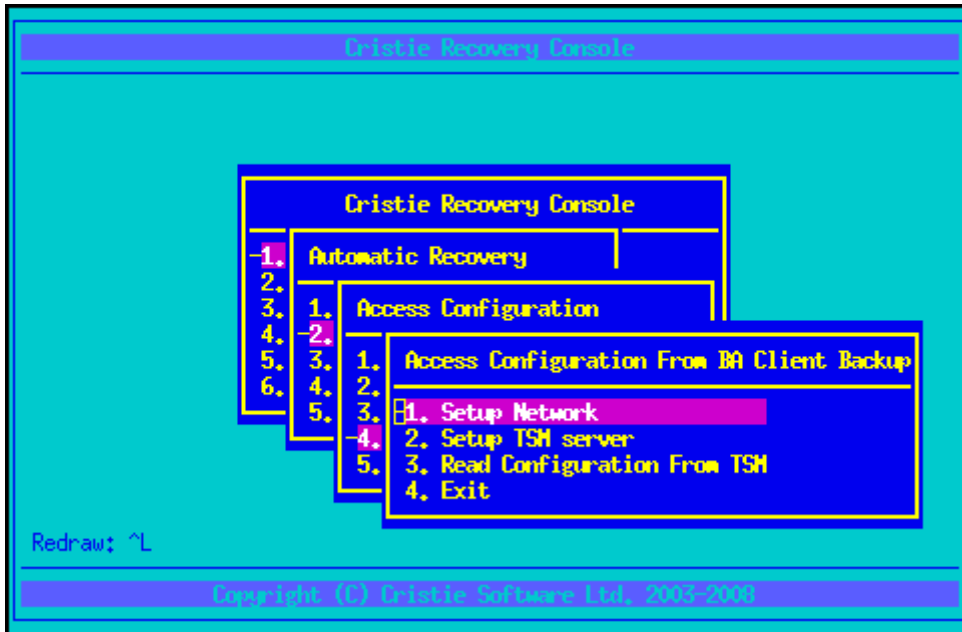


Read Configuration From Local Device

The configuration may be read from the local device by selecting this menu item.

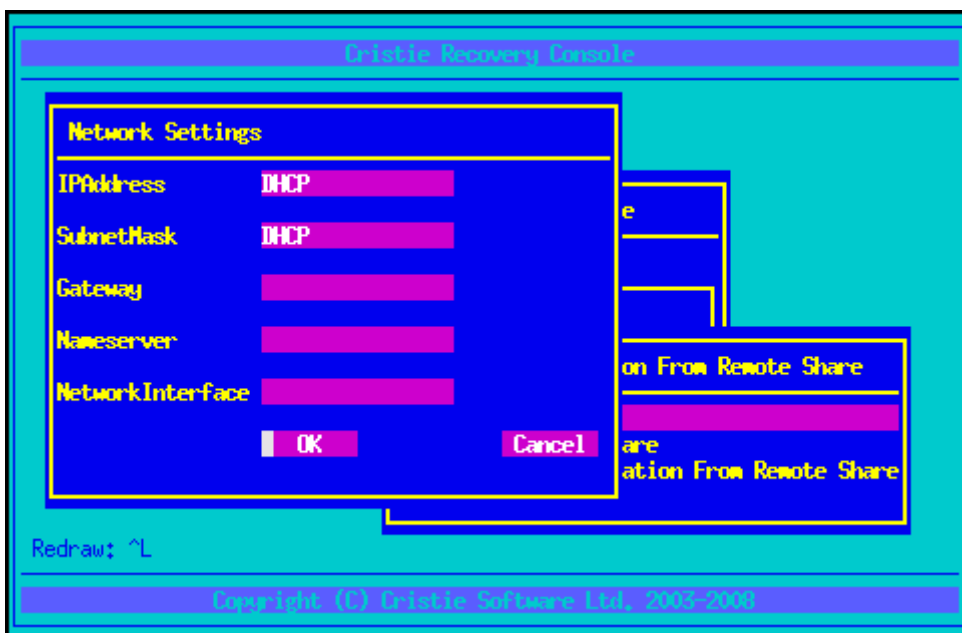
Access Configuration From TSM BA Client Backup

The configuration may be read from a TSM BA client backup using this option.



Setup Network

The network should be configured to allow access to the TSM server. To set up the network using DHCP, DHCP should be entered into the appropriate form fields.



To set up the network using a static address, the network configuration information should be entered into the form.

Static Network Details

Network Settings

IPAddress: 10.10.10.99

SubnetMask: 255.0.0.0

Gateway: 10.1.1.1

Nameserver: 10.1.1.1

NetworkInterface:

on From Remote Share

are ation From Remote Share

Redraw: ^L

Copyright (C) Cristie Software Ltd, 2003-2009

Setup TSM Server

The form should be used to enter details of the server where the configuration information is stored as part of the backup.

Static Network Details

TSM Server

TCPServerAddress: 10.2.1.20

TCPPort: 1500

Modename: myserver

Password: xxxxxxxx

Client Backup

5. 3. Read Configuration From TSM
4. Exit

Redraw: ^L

Copyright (C) Cristie Software Ltd, 2003-2009

Read Configuration From TSM

This should be used to read the configuration information from the TSM BA Client backup.

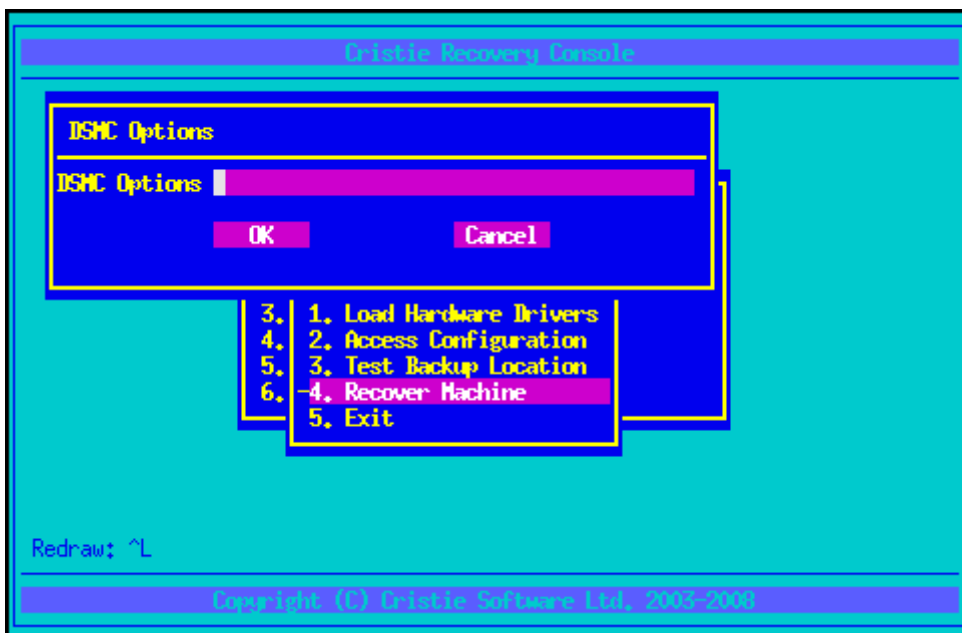
Test Backup Location

This option should be used to ensure that the backup location may be accessed successfully. It is not required if the configuration information has already been retrieved from the backup location.

Recover Machine

This option will perform the actual recovery by partitioning disks, setting up any logical volumes, formatting partitions and volumes, setting up the network if this is required and hasn't already been done, restoring files, setting up the OS for booting on dissimilar hardware and finally making the recovering machine bootable.

If the TSM BA Client backup should be restored with any options passed to *dsmc*, these should be added in this form. This allows the user full control over point in time backups etc. but is not required if the latest versions of all files are required.



The recovery process should begin and the time taken to recover will depend on the size of the backup and speed of disks and network