



UBDR GOLD

VERSION 4.0

USER GUIDE

ULTRABAC
DISASTER RECOVERY

UBDR Gold Version 4.0 User Guide

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UBDR - UltraBac Disaster Recovery

NOTE: Please be aware that UBDR Gold versions prior to 7/14/08 are NOT compatible with the CIP functionality in UltraBac Version 8.3. Please contact licensing@ultrabac.com for information on receiving an updated CD.

Both UBDR Pro and UBDR Gold are on bootable CDs that use Windows PE technology as a platform to perform UltraBac Image Disaster Recovery Agent restores. UBDR Pro is designed to retrieve and restore UltraBac image backups of a partition or an entire disk from a locally attached tape device or a remote disk path. UBDR Gold has that capability, along with the option to restore from an FTP site, Tivoli device, or a remote tape device.

UBDR Gold can also be used to perform both image and file-by-file backups.

When the system boots, the UBDR Gold Restore CD automatically detects and loads drivers for most NIC cards, SCSI cards, and RAID controllers.

Setup and Configuration

NOTE: To use the UBDR Pro or UBDR Gold Restore CD, the restore target system must be able to boot from CD. Consult the motherboard manufacturer's documentation for more information.

1. Power up the restore target system and insert the UBDR Gold Restore CD into the CD-ROM drive.
2. Check "I accept the above license agreement," and click "Next."
3. Select the network card for use during the restore from the drop-down menu.
4. Set the network configuration, either manually or by enabling DHCP.

If restoring from a locally attached device, it is possible to click "OK" without entering any network configuration information. To prevent UBDR Gold from attempting to retrieve an IP address, click the "x" in the upper right corner of the "Configuration" window.

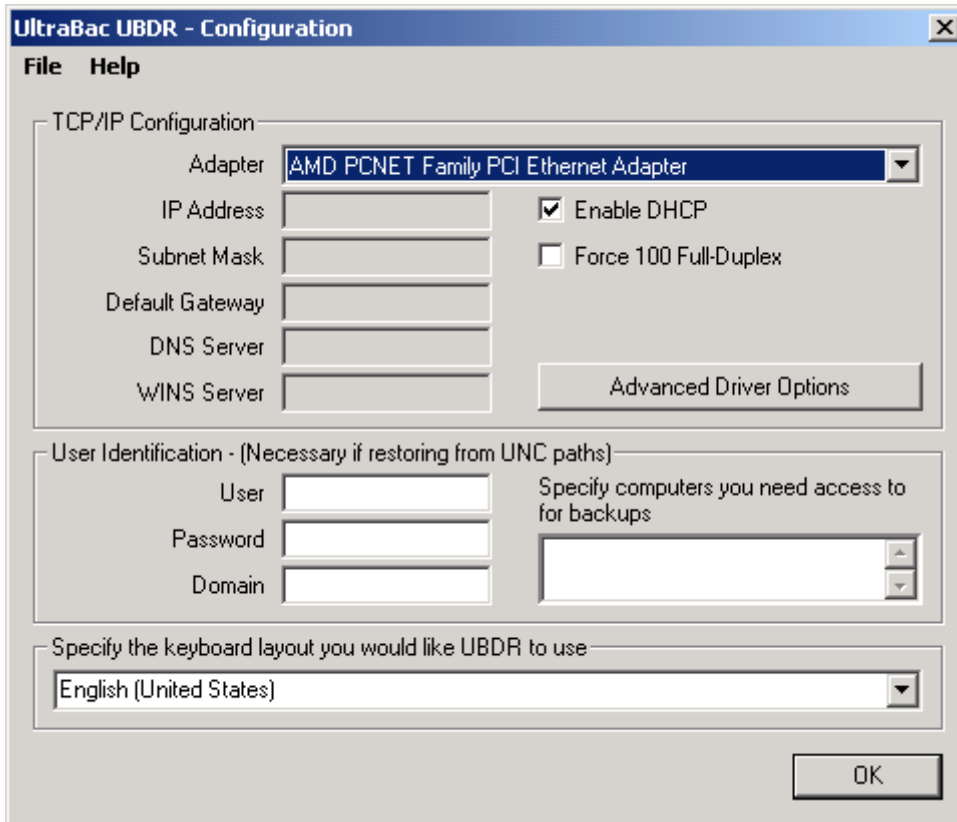


Fig. 1 - Network Configuration.

- Adapter – Allows the selection of the NIC to be used by UBDR from a drop-down menu, if multiple NIC cards are installed in the UBDR Gold host system.
- Enable DHCP – Allows UBDR to use a DHCP server to specify the network settings. When disabled, the network fields (i.e. IP Address, Subnet Mask, etc.) are used to configure the network settings.
- Force 100 Full-Duplex – Instructs UBDR to force the NIC to use 100 Full-Duplex.

Network options used when DHCP is unselected:

- IP Address – Specify the subnet mask of the IP address used.
- Default Gateway – Specify the IP address for the default gateway to be used by UBDR. This field can be left blank if UBDR does not need to connect to the internet.
- DNS Server – Specify the IP address of the DNS server used by the system or device hosting the image backup. This field can be left blank if IP addresses are to be used for device configuration.
- WINS Server – Specify the IP address of the WINS server used by the system or device hosting the image backup. This field can be left blank if IP addresses are to be used for device configuration.

International Keyboard Support

UBDR has keyboard support for 162 languages. To select support for a specific language, choose that language from the drop-down menu. That keyboard layout will begin functioning as soon as the language is selected.

User Identification

- Account – Specify an account that has full read/write access on the system (or share) hosting the image backup.
- Password – Specify the password for the account above.
- Domain – Specify the domain of the account above. If in a workgroup, specify the name or IP address of the system hosting the image backup.
- Specify machine(s) – This field is used to specify all machines with which UBDR will need to establish a connection. It is usually only necessary to specify the machine name or IP address of the system hosting the image backup.

Advanced Driver Options

UBDR - Advanced Driver Options

If you need to specify a custom option (for example when you need to set speed/duplex when auto-negotiation is undesirable), Refer to the INF file or documentation since the option name/value is dependent on the NIC being used.

Parameter

Name:

Type:

Value:

Show Original Entries Cancel OK

Fig. 2 - Advanced Driver Options.

This allows users to specify custom parameters for the selected NIC by creating registry entries that control the behavior of the NIC. For more information on the values that can be entered into the "Advanced Driver Options," please consult the NIC manufacturer's documentation.

Show Original Entries

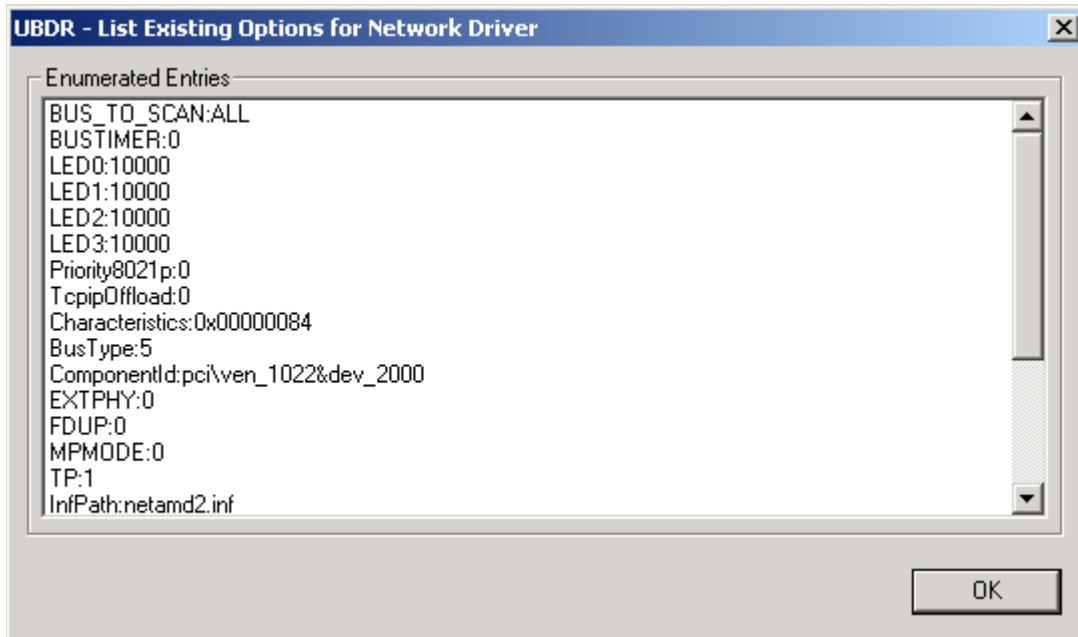


Fig. 3 - Existing options for network drivers.

This shows the registry entries as they currently exist for the selected NIC.

Device Selection

Once the network settings are entered, the storage device can be created/selected. UBDR Gold has the ability to use any type of backup device used by UltraBac. This includes FTP, Tivoli, media libraries, and remote devices. UBDR Pro is limited to only local tape and BackupPath devices. If the backup was written to CD or DVD by any third-party software (i.e. Nero, etc.), specify the CD/DVD drive letter as a BackupPath device.

After clicking "OK" in the Network Configuration screen, the device creation process will automatically begin.

- To open the UltraBac Storage Device Manager, click "OK."
- To open the Storage Device Wizard, click "Cancel."

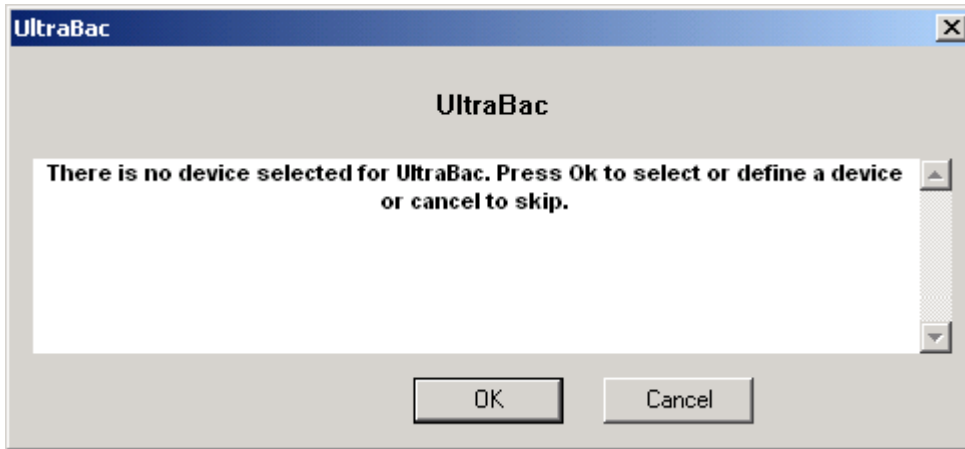


Fig. 4 - UBDR device prompt.

Tape Devices

In the UltraBac Storage Device Manager, tape devices will automatically be listed. UltraBac will automatically assign names to these devices, starting with Tape0.

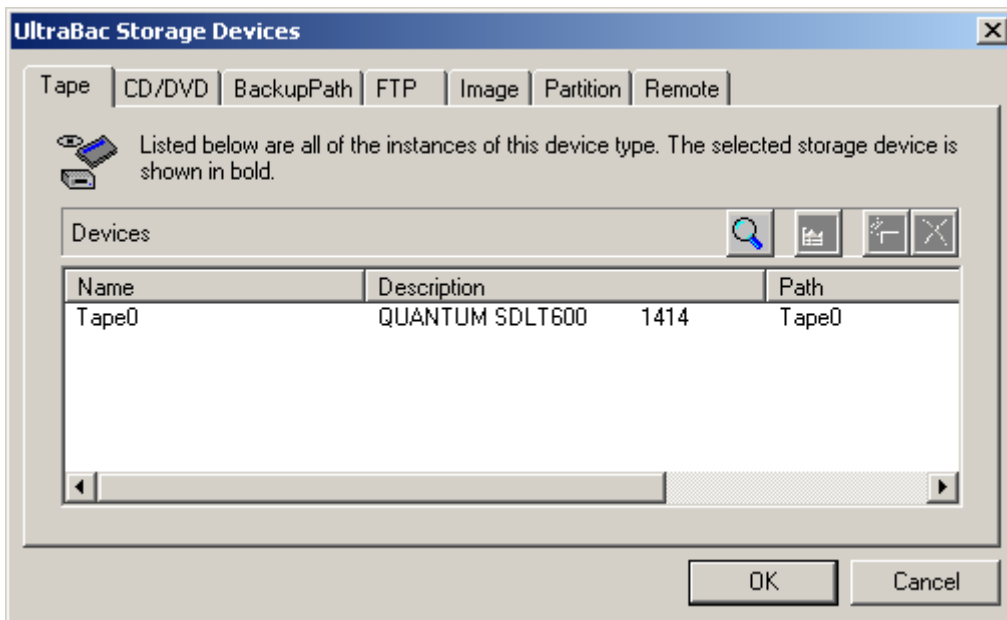


Fig. 5 - Tape devices in UBDR.

CD/DVD Device

If a CD/DVD writable drive is installed in the backup host, it will automatically appear in the CD/DVD tab.

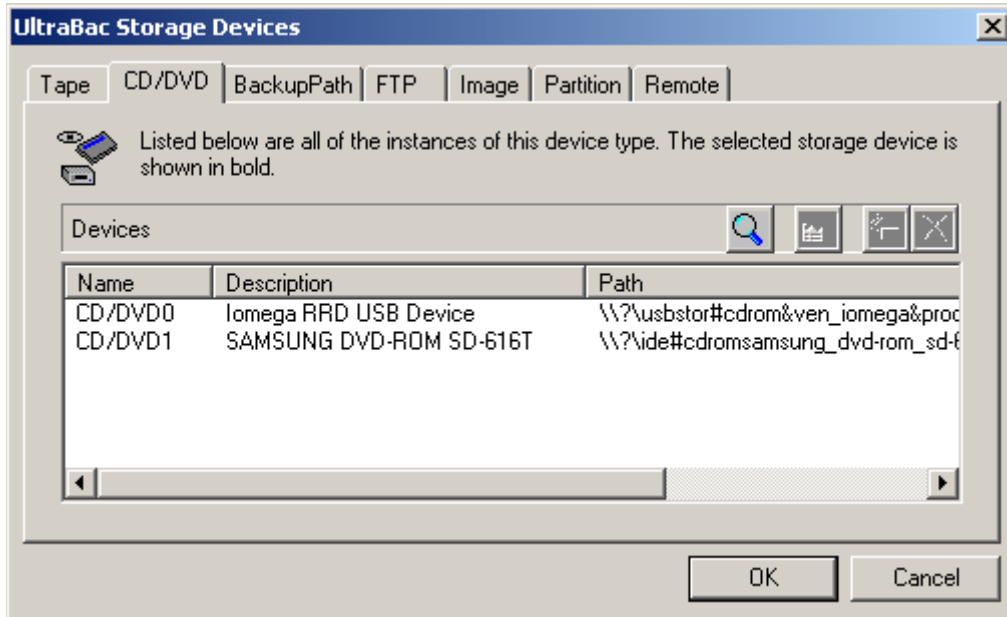


Fig. 6 - CD/DVD devices in UBDR.

BackupPath Device

BackupPath devices are user-created output targets that point to a folder on the backup host, or on a network path. To specify a BackupPath device:

1. Select the BackupPath tab.
2. Click the "Add New" icon.

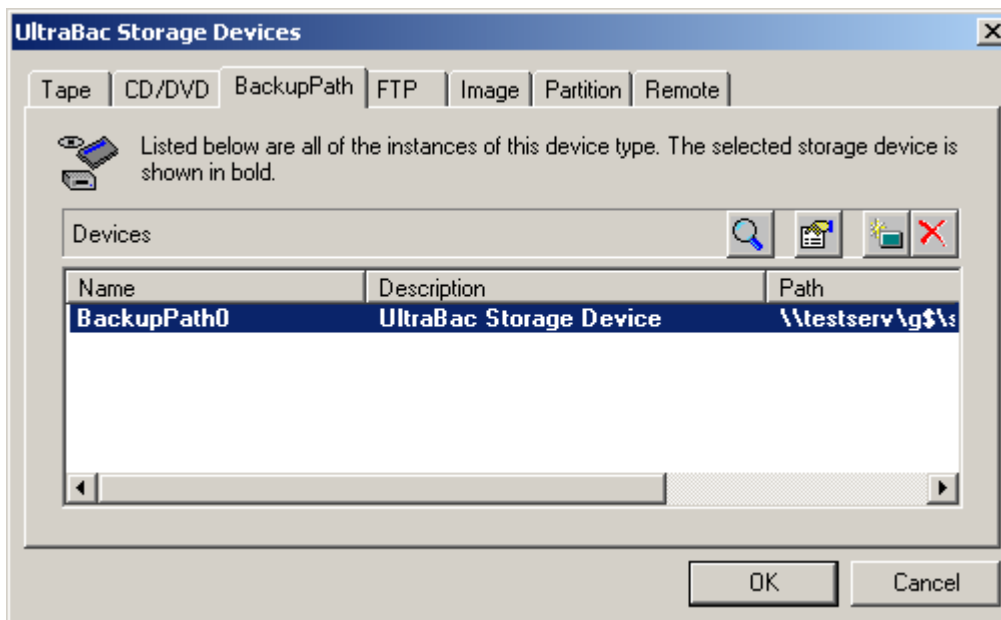


Fig. 7 - Tape devices in UBDR.

3. Enter a unique name in the Device Name field.
4. Enter a local or UNC path, to be used as an output target, in the Directory for Device field.
5. Click "OK" to save.

It is not necessary to enter the maximum folder size in the Limit size per media field, or to enter a size in the Limit size per file field. It is recommended to leave both these items at the default value.

FTP Device

To add an FTP device:

1. Select the FTP tab.
2. Click the "Add New" icon.

UltraBac FTP Storage Device Properties

Listed below are the properties of UltraBac FTP Storage Device. UltraBac will store backup output files on the server and the path chosen by the user.

Server Information

Description: FTP Image Storage

Server: 192.068.1.105

Path: backups\images

Type: FTP Encryption: BlowFish

Use Default Port Mode: PASSIVE

Media Limit MB File Limit MB 512

Login Information

User: admin Password: *****

Re-Enter: *****

Auto Deletion of Old Backups

None Delete Backups Older than X Days

OK Cancel Delete Lock File Test

Fig. 8 - FTP device options.

3. Type a device description into the Description field.
4. Type an FTP server name or IP address in the Server field.
5. Type a folder path to be used to store backup data in the Path field. This must be the full path to where the backup files will be stored.
6. Type the user name for the FTP server in the User field.
7. Type the password for the user name in the Password field.
8. Re-type the password for the user name in the Re-Enter field.
9. Click "OK" to save.

It is not necessary to enter the maximum folder size in the Limit size per media field, or to enter a size in the Limit size per file field. It is recommended to leave both these items at the default value.

Tivoli Storage Manager Device

NOTE: To use the Tivoli device, the backup host must be running the Tivoli client software, which can be downloaded here:

http://www.tivoli.com/support/storage_mgr/clients.html#xp

To define a Tivoli device:

1. Select the Tivoli tab.
2. Click the "Add New" icon.
3. Enter a unique device name in the Device Name field.
4. Enter the name or IP address of the Tivoli server in the Server field.

UltraBac Tivoli Storage Manager Device Properties

Listed below are the properties of an UltraBac Tivoli Storage Manager Device. UltraBac will store backup output files on logical storage hosted by the given Tivoli server.

Device Information

Device Name: Tivoli Image Host

Server: server2

Password: *****

File Limit MB: 512

Folder: images

Configuration Data

C:\Program Files\UltraBac Software\ultrabac8\dsm.opt

Browse

Use DSMI_CONFIG environment variable, if available.

Advanced Properties

Backup Mode

Archive Mode

Node: UltraBac

Filespace: \UltraBac

OK Cancel Unlock Test

Fig. 9 - Tivoli device options.

5. Enter the password defined on the selected Tivoli server for the Node name in the Password field.
6. Enter the folder (high-level name) to use for backup in the Folder field.
7. Enter the output file size in the File Limit MB field.
8. Click "OK" to save.

Advanced Properties

- Configuration File – This is the TSM Client config file, and defines things like the communication protocol and port number to use when communicating with the server.
- Use DSMI_CONFIG environment variable, if available – Selects whether the DSMI_CONFIG environment variable, if set, overrides the above path.
- Node – The node name that UltraBac passes to the Tivoli server.
- Filespace – Part of an object's full name and stems from ADSM being designed to back up servers.

Click "Test" to ensure the device is working properly.

Image and Partition Devices

If UBDR Gold is being used to perform a static mirror image backup, the creation of either an Image or Partition device is required. It is necessary to have devices that are of the same size (or larger) than the original disk/partition. These backups can only be performed to a local disk.

- Image device – If a hard disk is present with all partitions deleted, it will be available for addition as an Image device.
- Partition device – If a partition is created on a hard disk, with no assigned drive letter, it will be available for addition as a Partition device.

Remote Device

The Remote device option allows UltraBac to use a storage device attached to or created on a system other than the UltraBac backup host.

NOTE: The UltraBac Device Drivers must be installed on the system hosting the tape drive. Tape devices are automatically enumerated when UltraBac is installed on the tape host, and these devices are numbered in sequential order starting with the lowest SCSI ID. UltraBac will automatically assign names to these devices, starting with Tape0.

1. Select the Remote tab.
2. Click the "Add New" icon.
3. Enter the Windows name or IP address of the tape host in the Device Host field.
4. Enter the UltraBac assigned device name in the Remote Device field.
5. Click "OK" to save.

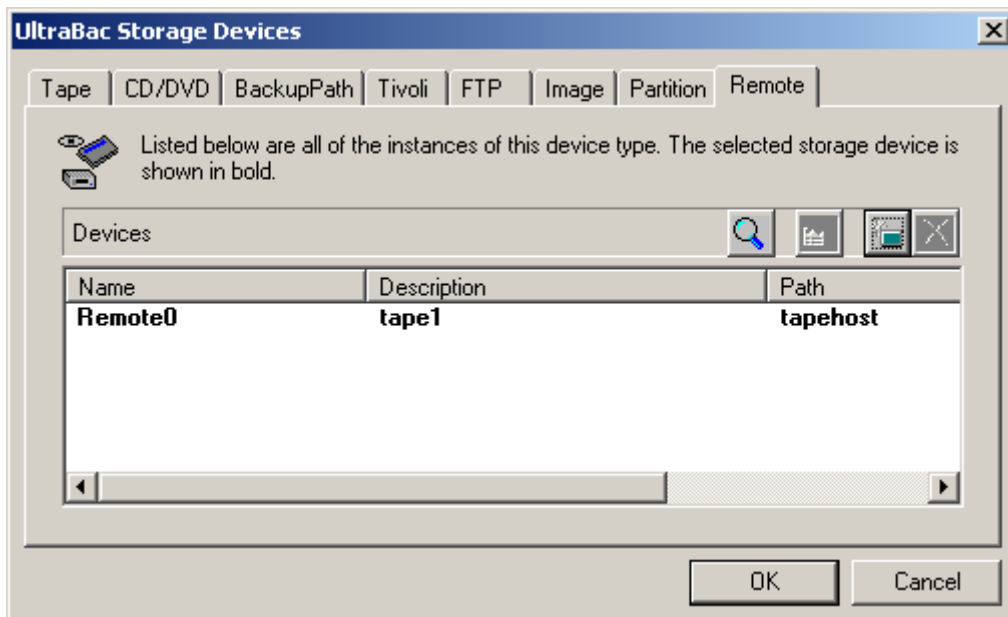


Fig. 10 - Remote devices in UBDR.

After entering in the name of the device host, it is possible to click "Browse" to select the device from a list of devices available on that host.

Media Library Support

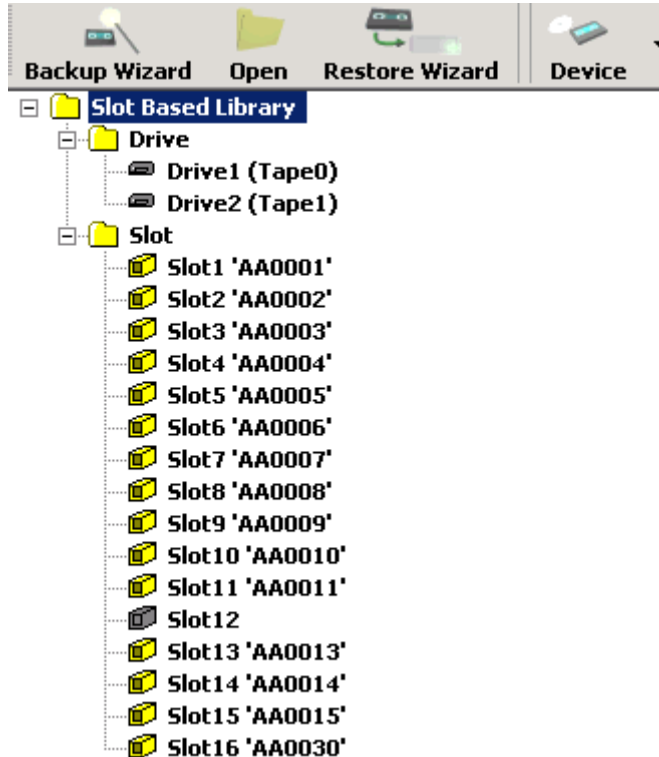


Fig. 11 - Media library controls.

Using UBDR Gold, both local and remote media libraries can be accessed during a restore.

To access a local autoloader:

- Select a tape device residing in the media library when making the device selection during the UBDR Gold restore process.
- Click "Select"/"Storage Devices" from the main UBDR Gold menu, and highlight a tape device residing in the media library from the Storage Device Manager.

To access a remote autoloader:

1. Select "Other" when making the device selection during the UBDR Gold restore process.
2. Select "Remote" from the Storage Device Manager.
3. Add a remote tape device residing in a media library.

Device Selection Wizard

If "Cancel" was selected at the initial device prompt, the Device Selection Wizard will be launched. In the Device Selection Wizard, tape and CD/DVD devices will automatically be listed.

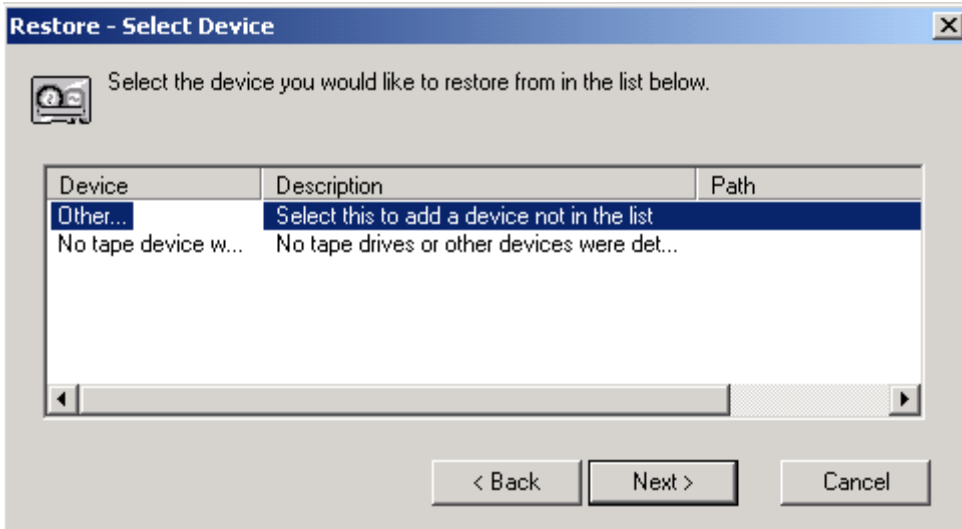


Fig. 12 - Device Selection Wizard.

If the restore is to be done from a device other than tape or CD/DVD, select "Other."

If the backup was written to CD or DVD by any third-party software (i.e. Nero, etc.), select "Other," and specify the CD/DVD drive letter as a BackupPath device.

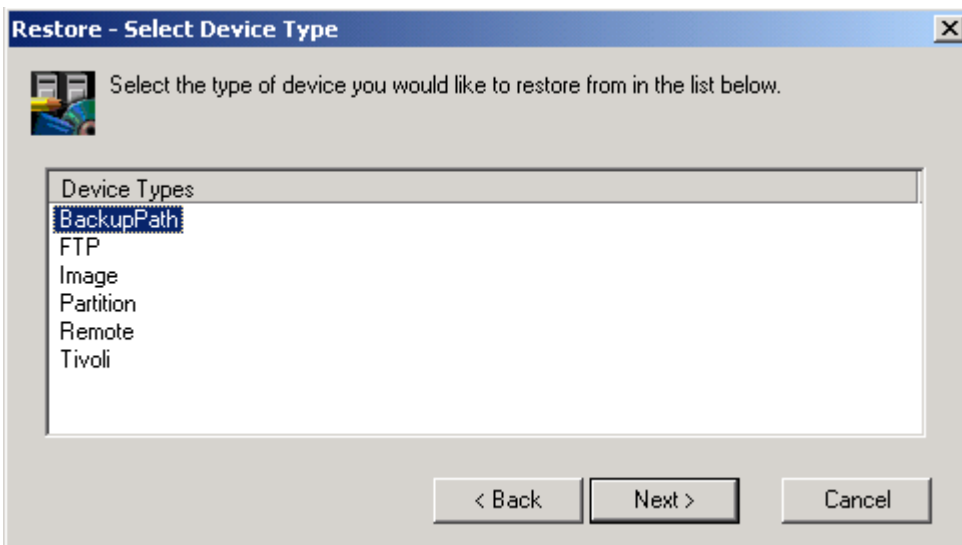


Fig. 13 - Device type selection.

Select the device type, click "Next."

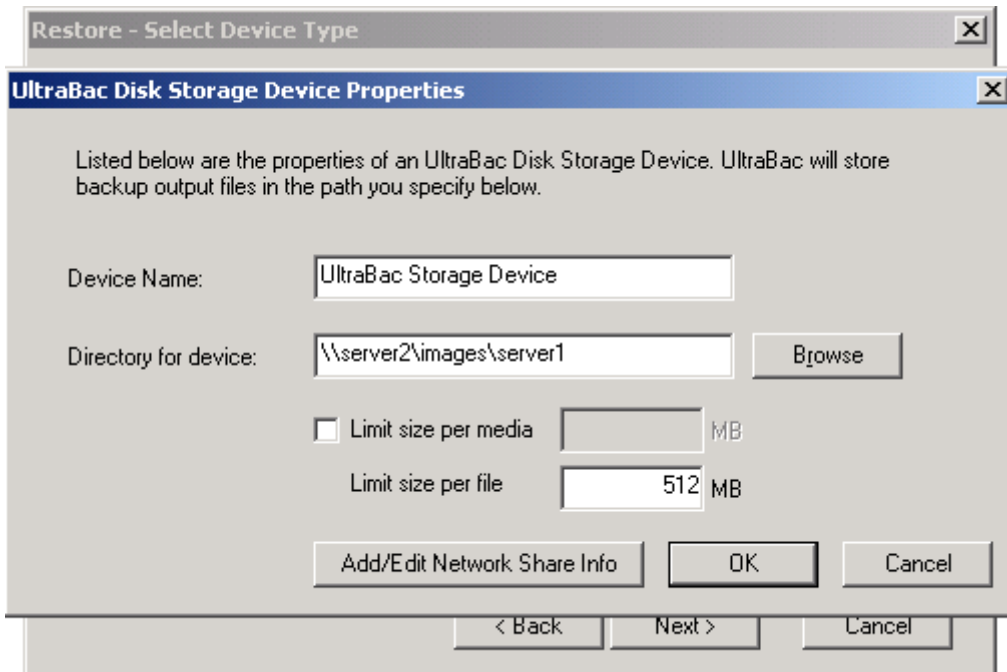


Fig. 14 - BackupPath device properties.

Enter in the path to the device, and click "OK."

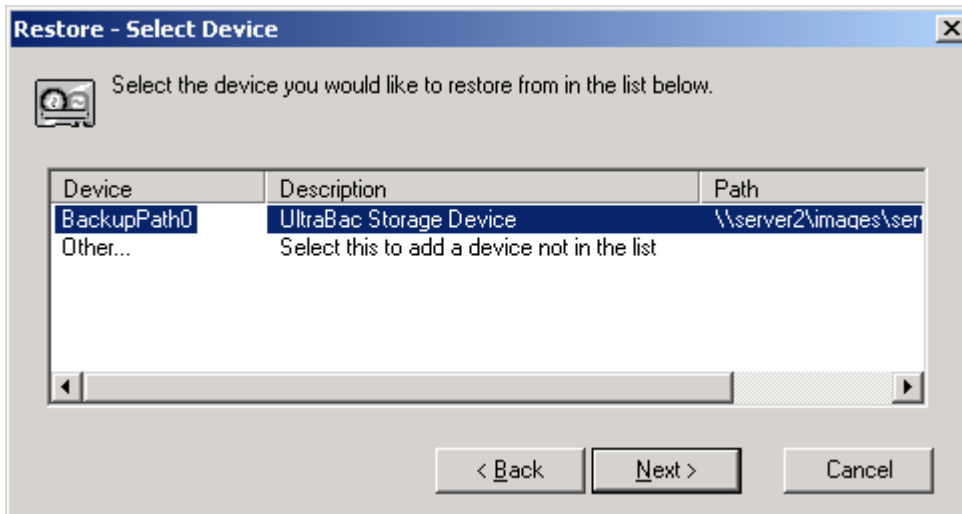


Fig. 15 - Selecting the device for restore.

Highlight the newly created device, and click "Next." UBDR Gold will automatically begin searching the media for backup sets.

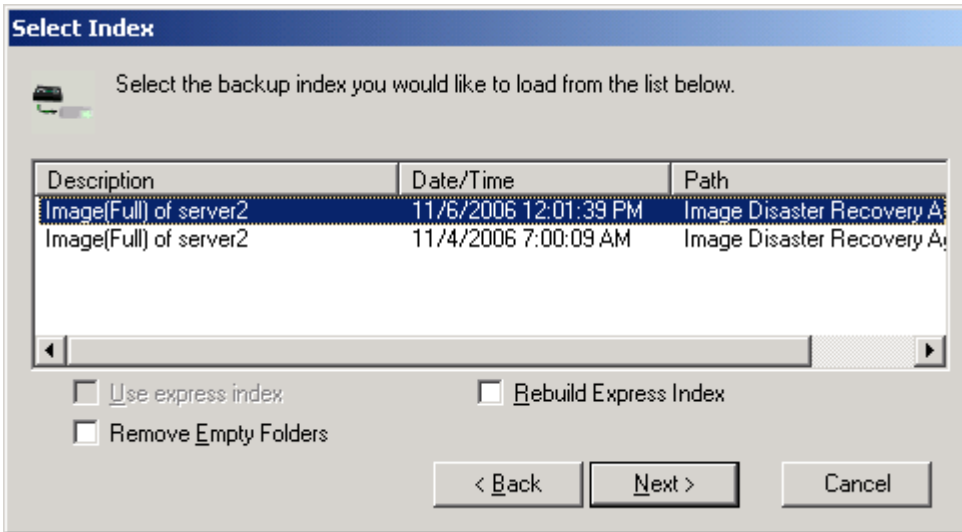


Fig. 16 - Selecting the set for restore.

Select the backup set to restore and click "Next."

Restoring the Image

The Image Restore Method options allow an image backup to be restored to the original server with either a new disk or the original drive. These options also allow the backup to be restored to a virtual server (both VMware and Microsoft Virtual Server) or even a new system with dissimilar hardware.

By default, all disks and partitions in the backup index are selected for restore.

Click "Cancel" on the Image Restore Method screen to return to the main UltraBac window. This window will allow the selection of individual tools, and allows other advanced operations and utilities to be accessed.

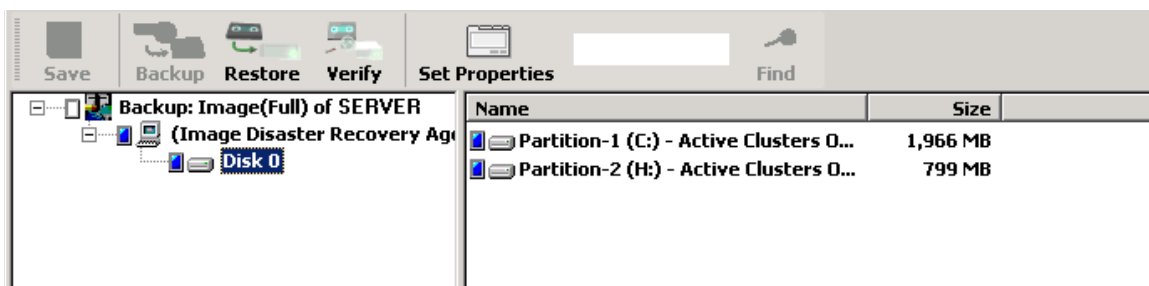


Fig. 17 - Loaded backup index in the file viewer.

Index Properties

The Index Properties option shows additional information about the original disk from the system backed up. To access this information, click the "Set Properties" button from the UltraBac Set toolbar.

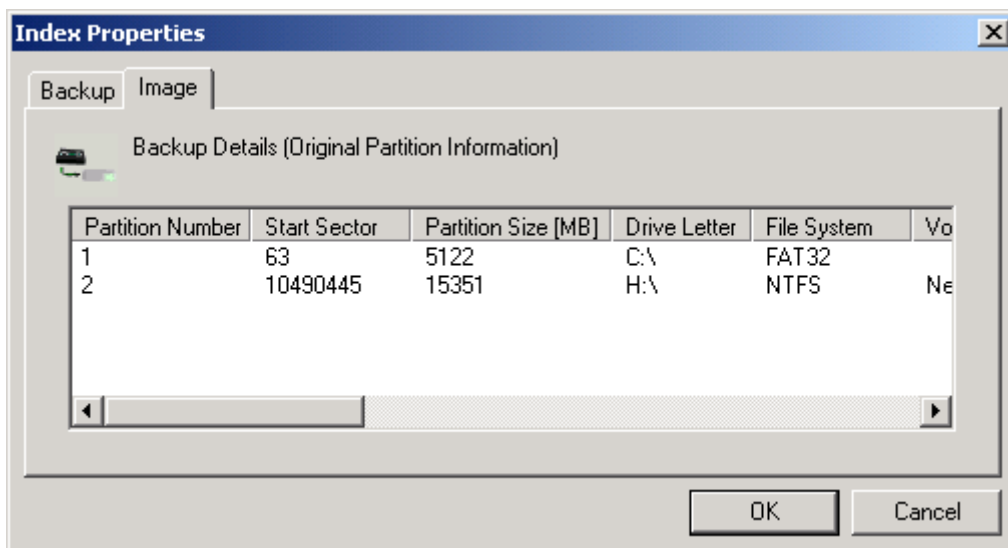


Fig. 18 - Set properties and original disk information.

The following information is contained in the Index Properties for each partition backed up:

- Partition Number
- Start Sector
- Partition Size
- Drive Letter
- File System
- Volume Label
- Disk Number
- Disk Type
- Sectors/Track
- Cylinders
- Heads
- Sectors per Cluster
- Bytes per Sector
- Free Clusters
- Total Clusters

Image Restore Options

The Image Agent Restore options allow the selected partition(s) to be restored to specified target partitions, marked as active, resized, and other additional operations. These options can be used in combination to allow a system to be restored to a different hardware platform or even a virtual platform.

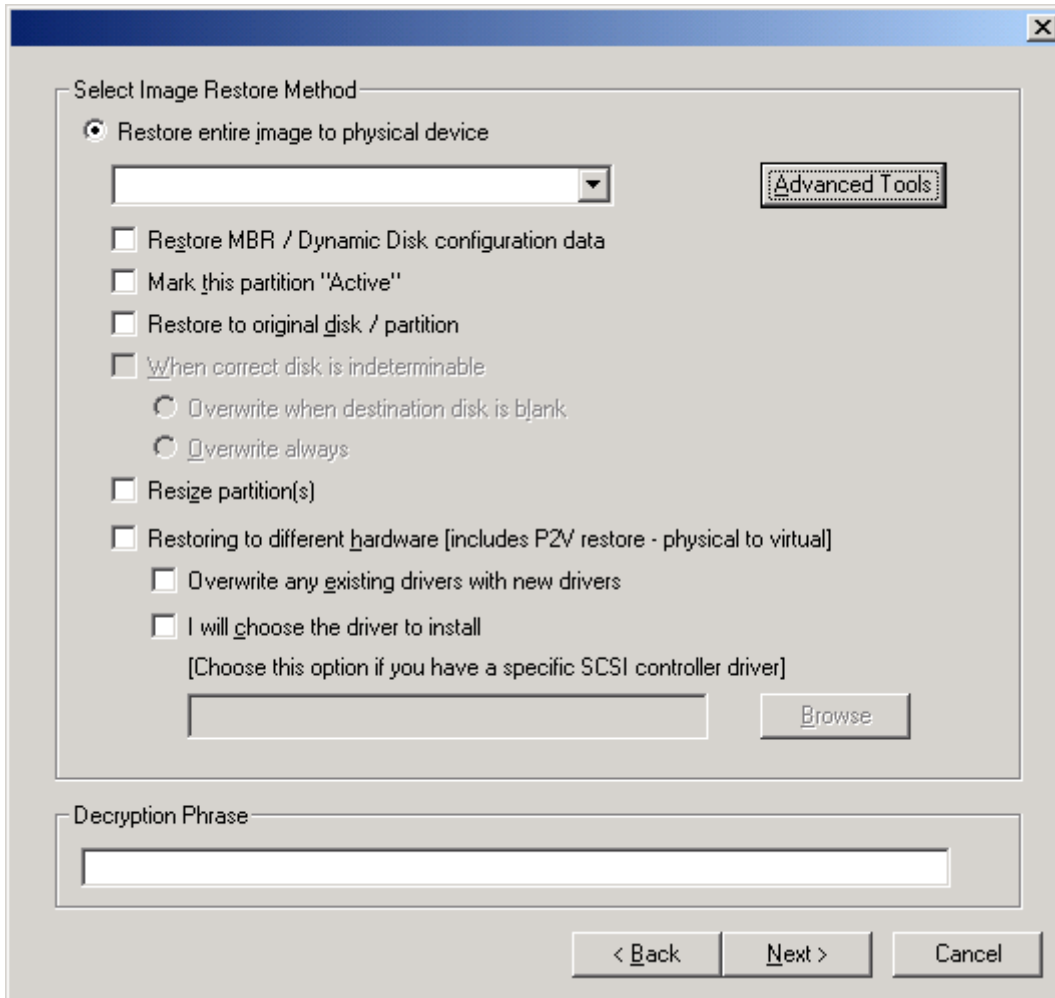


Fig. 19 - Image restore options.

NOTE: When selecting the restore options, some options may be mandatory and some may be unavailable.

- Restore entire image to physical device – This drop-down menu lists all target partitions available for restore.
- Restore MBR / Dynamic Disk configuration data – Forces the restore of the Master Boot Record or the Dynamic Disk configuration table. If no partitions exist on the restore target disk, this can be used to quickly configure the disk to match the original partition configuration.
- Mark this partition Active – Used when restoring the OS partition to a user-created partition; this will signify that the restored partition is the OS partition.
- Restore to original disk / partition – Instructs the restore to write the selected image to the original disk location (i.e. Disk0/Partition1, Disk0/Partition2). This option must be used when restoring multiple partitions. Enabling this option also enables the following options:

- Restore MBR / Dynamic Disk configuration data.
- When correct disk is indeterminable:
 - Overwrite when blank – Overwrite the target disk only if that disk has no disk signature.
 - Overwrite always – Overwrite the target disk, regardless of existing data.
- Resize partition(s) – Used when restoring to a larger partition, this option allows the restored partition to use the full amount of space in the target partition. This option cannot be used when restoring multiple partitions.
- Restoring to different hardware – Instructs UBDR Gold to update the OS partition after restore, to allow the image to be restored to a different physical or virtual system.
 - Overwrite any existing drivers with new drivers – Forces the use of the selected drivers by overwriting any existing drivers of the same name on the target partition.
 - I will choose the driver to install – Allows a driver to be used during the restore process that is not contained on the UBDR Gold Restore CD.

NOTE: When restoring from backup data hosted on a locally attached USB hard drive, "Overwrite when destination disk is blank" should ALWAYS be used, or the backup data may be overwritten.

Advanced Tools

The Advanced Tools allow users to create and delete partitions from any basic disk in the system, while booted into UBDR. This can be used to create larger partitions on a new disk, to remove unwanted partitions, or to make other layout changes to the system before restoring data.

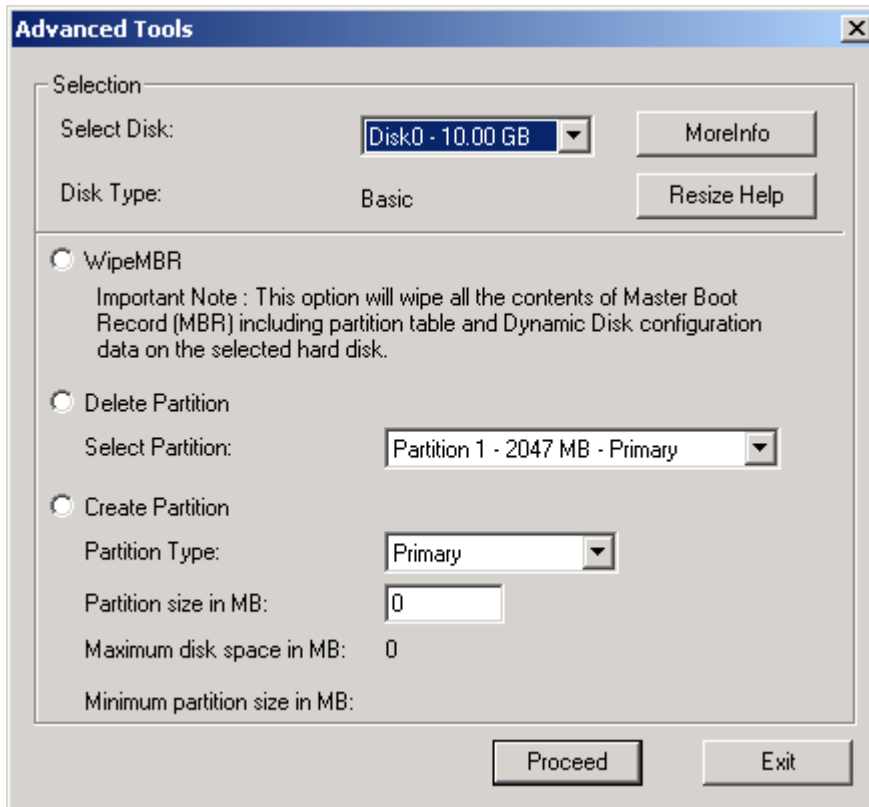


Fig. 20 - Advanced Tools options.

- Select Disk – This drop-down menu allows the selection of all disks in the system for viewing in the Advanced Tools screen.
- WipeMBR – This option will delete the Master Boot Record (including all partition information) on the selected disk.
- Delete Partition – This option allows one partition to be deleted via drop-down menu.
- Create Partition – This option allows the creation of one partition, either Primary, Extended, or Logical.
- Partition size in MB – Specifies the size of the partition to be created.
- Maximum disk space in MB – Specifies the available space on disk.
- Maximum partition size in MB – Specifies the maximum size available for a partition.

After manually creating a partition, ensure the partition has been successfully created by checking the Select Partition drop-down menu. It may be necessary to create a partition up to 8MB smaller than the available space in order for the partition to actually be created.

More Information (Physical Disks)

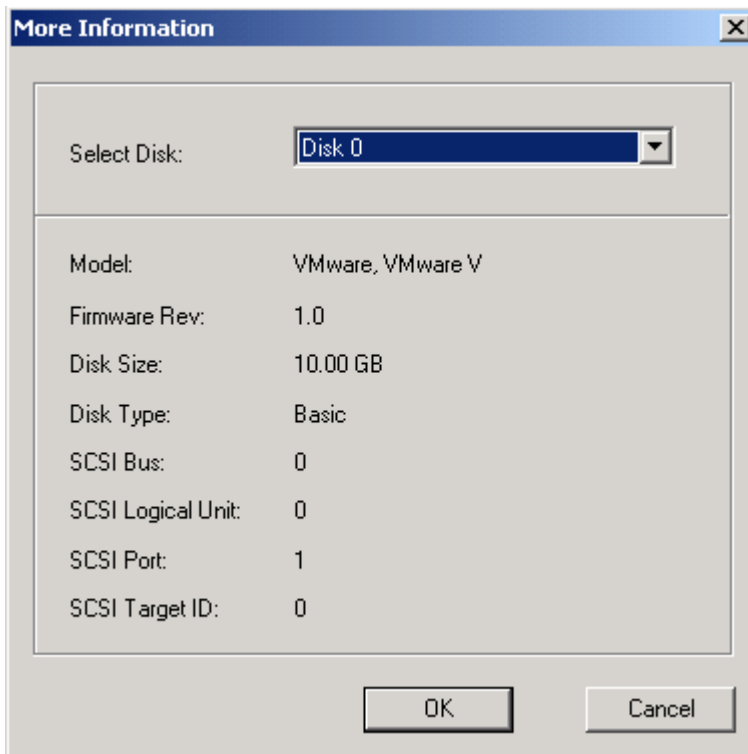


Fig. 21 - Additional information on the disk layout.

The "More Information" option allows the following disk information to be viewed:

- Model
- Firmware Revision
- Disk Size
- Disk Type
- SCSI Bus Number
- SCSI Logical Unit ID
- SCSI Port
- SCSI Target ID

Clicking "OK" or "Cancel" will close the More Information screen.

Restoring the OS to the Original Server

There are several common scenarios for doing an Image restore, each requiring different options to be set. These include:

- Restoring to the original disk(s).
- Restoring to a new partition/disk/array of the same size.
- Restoring to a new partition/disk/array of a larger size.

Many of these options will require the de-selection of partitions prior to restore. To enter the file selection screen, click the Cancel button in the Restore Options screen.

Restoring to the Original Disk(s)

When restoring to the original disk(s), the following options should be selected:

- Restore entire image to physical device.
- Restore to original disk / partition.

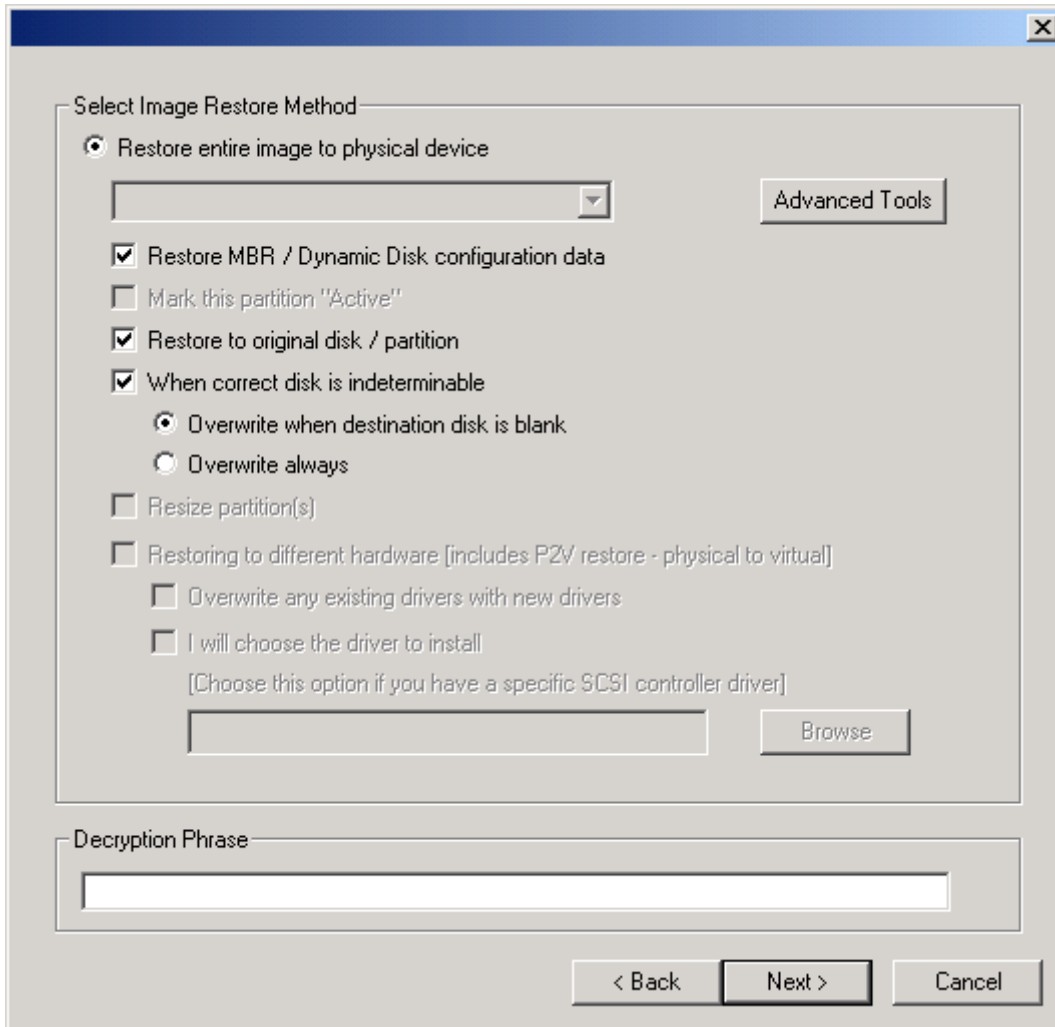


Fig. 22 - Options used when restoring to the original system.

If all partitions are still on the target disk(s), it is not necessary to restore the MBR.

Restoring the OS to a New Partition/Disk/Array of the Same Size as Original

When restoring to a new partition/disk/array of the same size as the original disk, select these options:

- Restore entire image to physical device.
- Restore MBR / Dynamic Disk configuration data.
- Restore to original disk / partition.
- Partition selection drop-down box will be grayed out.

Restoring the OS to a New Partition/Disk/Array Larger than the Original

When restoring to a larger partition/disk/array, only one partition can be restored per restore operation. It is necessary to manually create the larger partition(s) if the partitions do not currently exist on the target disk.

The "Mark this partition Active" option should ONLY be selected when restoring the OS partition:

- Restore entire image to physical device.
- From the drop-down menu select the restore target partition.
- Mark this partition as Active (only when restoring the OS partition).
- Resize partitions.

Restoring the Partition

Once the options are set, the image can be restored:

1. Click "Next" to finalize the restore options.
2. Click "Restore" to start the restore process.
3. Reboot the server when the restore is complete.

Restoring the OS to a New Partition/Disk/Array Smaller than the Original

NOTE: This operation supports the NTFS file system only. Also, Windows 2000/NT4 OS partitions cannot be restored to smaller partitions.

When restoring to a smaller partition/disk/array, only one partition can be restored per restore operation. It is necessary to manually create the new partition(s) if the partitions do not currently exist on the target disk.

NOTE: When restoring to a smaller partition, it is recommended that the target partition be at least 60% of the original partition size.

The "Mark this partition Active" option should ONLY be selected when restoring the OS partition:

- Restore entire image to physical device.
- From the drop-down menu select the restore target partition.
- Mark this partition as active (only when restoring the OS partition).
- Resize partitions.

Restoring the Partition

Once the options are set, the image can be restored:

1. Click "Next" to finalize the restore options.
2. Click "Restore" to start the restore process.
3. Reboot the server when the restore is complete.

NOTE: In rare cases, when restoring to a smaller partition, the resize operation can take as long as an hour. Canceling the restore operation during this time may make the partition unreadable. Running a defragmentation operation before backup will greatly reduce the amount of time needed for the resize operation to complete.

Restoring the OS to an Alternate Physical Server

Before restoring any partitions, the system disk will need to be partitioned. This can be accomplished by either restoring the Master Boot Record (MBR) or by creating the partitions manually with the Advanced Tools.

Restoring the Master Boot Record

To restore the MBR:

1. Select the OS partition by marking the box directly to the left in blue.
2. Click "Operations"/"Restore Selected Files."
3. Select the target disk from the drop-down menu.
4. Check "Restore MBR / Dynamic Disk configuration data."
5. Click "Next."
6. Click "Restore."

Restoring OS Partition

After partitioning the disk, the OS partition should be restored. When restoring the OS partition, the following process should be used:

1. Select the OS partition by marking the box directly to the left in blue.
2. Click "Operations"/"Restore Selected Files."
3. Select the restore target partition from the drop-down menu.
4. Check the following options:
 - o Restoring to different hardware.
 - o If the target partition was manually created, check "Mark this partition Active."

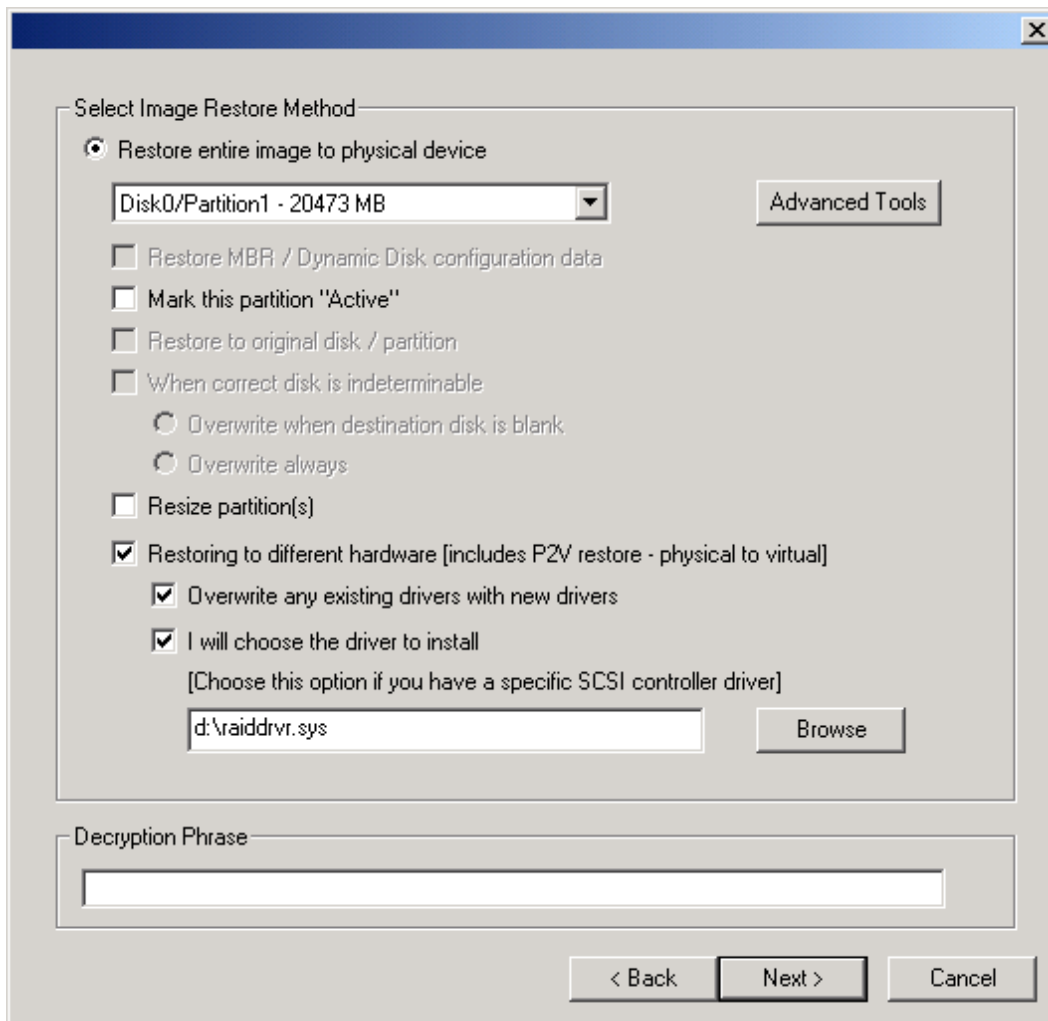


Fig. 23 - Restoring to dissimilar hardware.

5. Click "Next."
6. Click "Restore."
7. If only the OS partition is being restored, reboot the system.

Restoring Data Partition(s)

When restoring data partitions, all data partitions can be restored in one restore operation only if the Master Boot Record has been restored. Do not check "Restoring to different hardware" when restoring a data partition.

1. Select the partitions to be restored by marking the boxes directly to the left in blue.
2. Click "Operations"/"Restore Selected Files."
3. Check the following options:
 - Restore entire image to physical device.
 - If the Master Boot Record was restored, check "Restore to original disk / partition."
 - Check "Overwrite always."

4. Click "Next."
5. Click "Restore."
6. Reboot the system when the restore is complete.

Restoring the System to a Virtual Server

Before restoring any partitions, the virtual disk will need to be partitioned. This can be accomplished by either restoring the Master Boot Record (MBR) or by creating the partitions manually with the Advanced Tools.

Restoring the Master Boot Record

To restore the MBR:

1. Select the OS partition by marking the box directly to the left in blue.
2. Click "Operations"/"Restore Selected Files."
3. Check "Restore MBR / Dynamic Disk configuration data."
4. Click "Next."
5. Click "Restore."

```
Restore To Path: Disk0 - MBR Restore only - 20473 MB
MBR/Dynamic Disk configuration data restore completed successfully for Disk 0.
```

```
RESTORE SUMMARY:
Begin: 4/4/2007 4:50:09 PM
End: 4/4/2007 4:50:16 PM
Duration: (00:00:06) Rate: (16.67 KB/Sec 0.98 MB/Min 58.59 MB/Hour)
Media Capacity: 558.917 GB
Media Remaining: 17.318 GB
0 Errors and 0 Warnings.
0 Partitions Completed/1 Partition Selected.
1 Disk Completed/1 Disk Selected.
100.14 KB Completed/2138.61 MB Selected.
```

END OF LOG

Fig. 24 - Successful MBR restore log.

Restoring the OS Partition

After partitioning the disk, the OS partition should be restored. When restoring the OS partition, the following process should be used:

1. Select the OS partition by marking the box directly to the left in blue.
2. Click "Operations"/"Restore Selected Files."
3. Select the restore target partition from the drop-down menu.
4. Check the following options:
 - o Restoring to different hardware.
 - o If the target partition was manually created, check "Mark this partition Active."

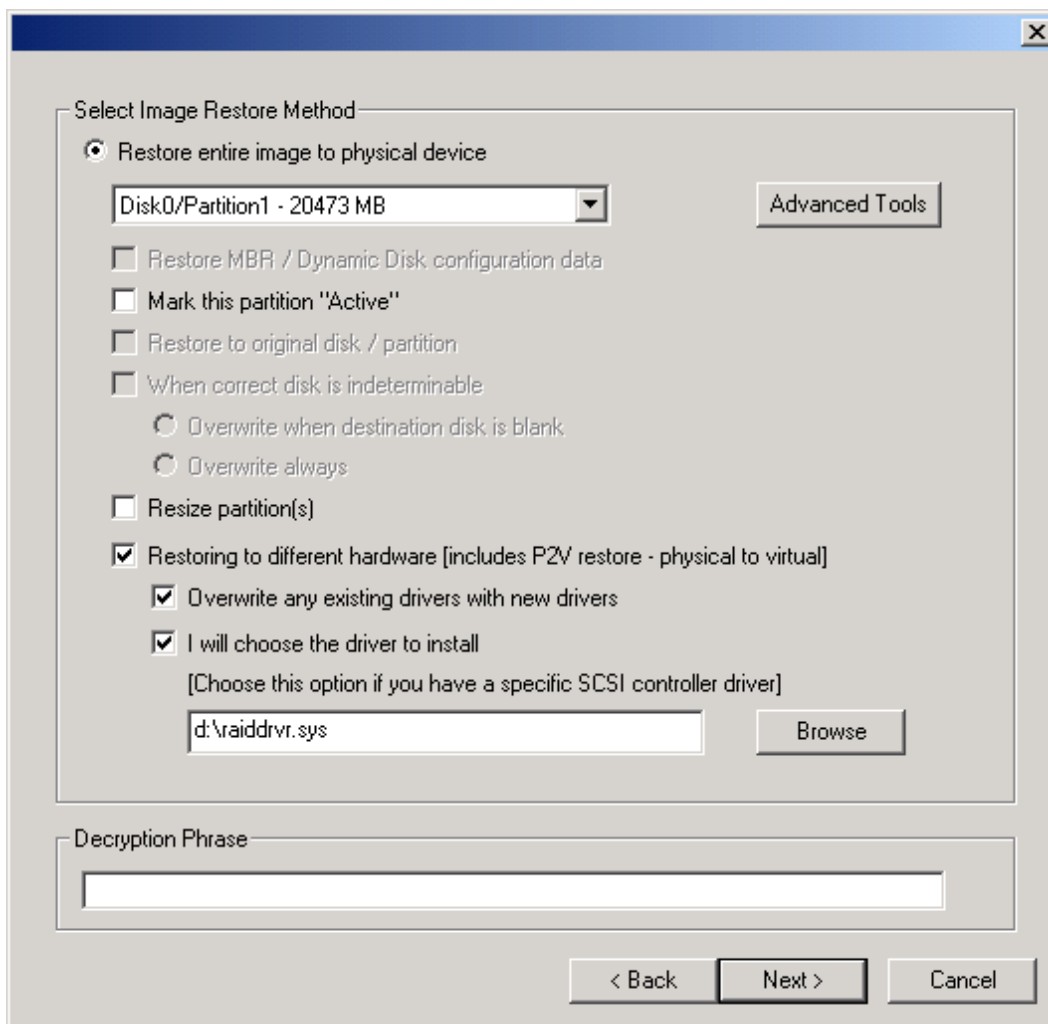


Fig. 25 - Restoring to a virtual server.

5. Click "Next."
6. Click "Restore."

If only the OS partition is being restored, reboot the system.

Restoring Data Partition(s)

When restoring data partitions, all data partitions can be restored in one restore operation only if the Master Boot Record has been restored. Do not check "Restoring to different hardware" when restoring a data partition.

1. Select the partitions to be restored from the loaded backup index by marking the boxes directly to the left in blue.
2. Click "Operations"/"Restore Selected Files."
3. Select the restore target partition from the drop-down menu.
4. Check "Restore entire image to physical device."
5. If the Master Boot Record was restored, check "Restore to original disk / partition."
6. Check "Overwrite always."

7. Click "Next."
8. Click "Restore."

Reboot the system when the restore is complete.

Restoring a Continuous Image Protection Image Using UBDR Gold

If the Continuous Image Protection (CIP) monitoring ended before completion, it will be necessary to rebuild the index of the media before restore.

To rebuild the index of the media:

1. Click "Select"/"Storage Devices" and ensure the device used for backup is selected.
2. Click "Tools"/"Media"/"Rebuild Indexes."

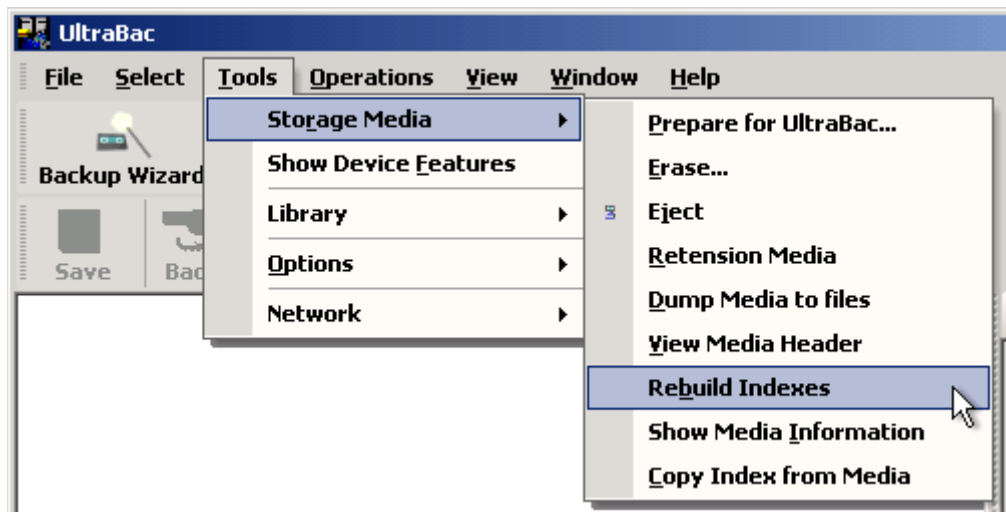


Fig. 26 - Rebuilding the Continuous Image Protection index.

To begin the restore process:

1. Launch the Restore Wizard by clicking "File"/"Load Index for Restore/Verify" from the main UltraBac menu.
2. Select the "Retrieve from online index," and click "Next."
3. Select and load the recovered index for restore.
4. Select the partition for restore.
5. Click "Operations"/"Restore Selected Files."
6. Click the "Restore entire image to physical device" radio button, select the restore target partition from the drop-down menu, and click "CIP Options."

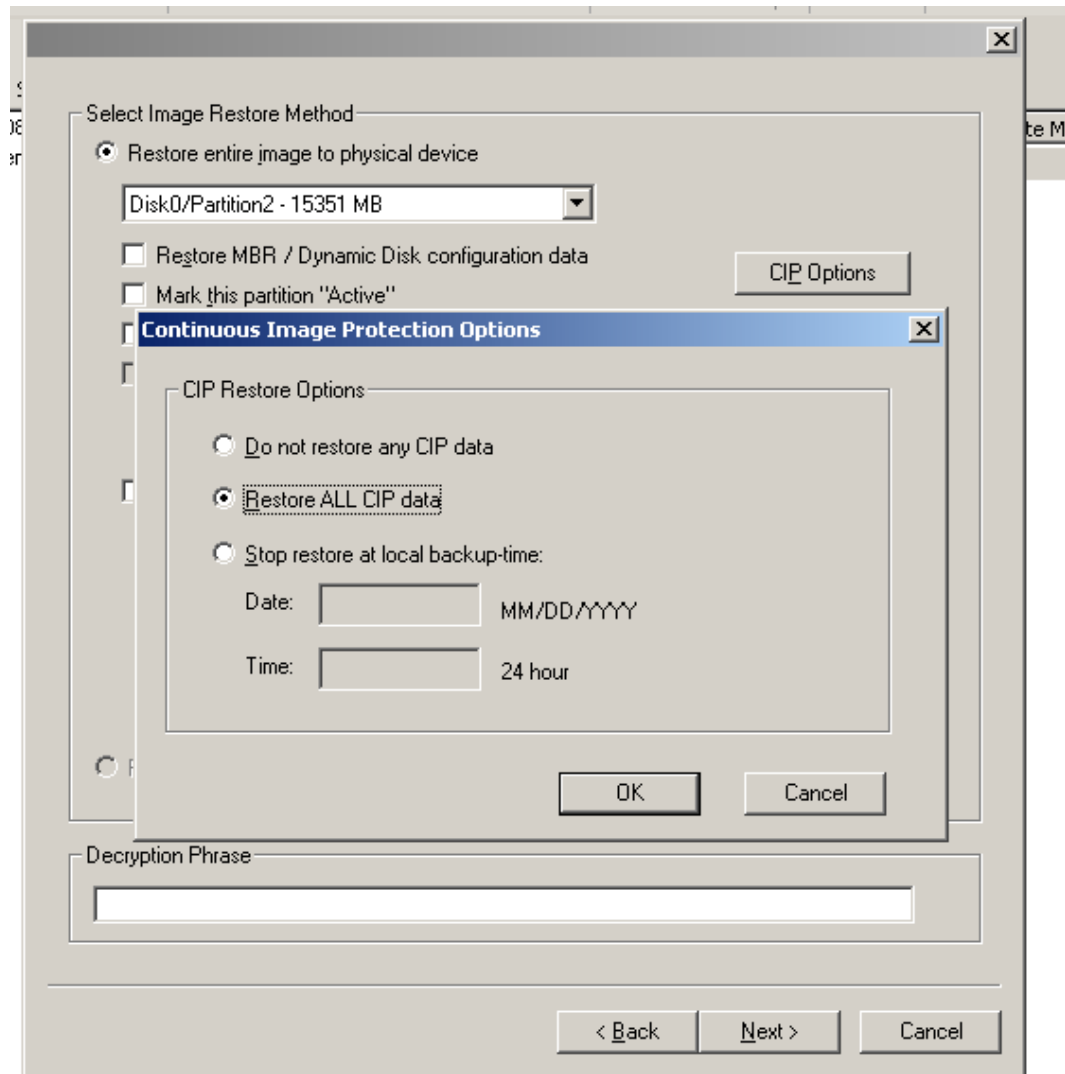


Fig. 27 - Continuous Image Protection restore options.

7. Set the CIP restore options, and click "OK."
8. Click "Next."
9. Check "Run Unattended," and click "Restore."
10. After the restore completes, reboot the system.

TROUBLESHOOTING TIPS

Issue: Failed attempting to restore to dissimilar hardware.

Error! 1/13/2006 5:47:56 PM

Failed attempting to restore to dissimilar hardware - unable to find existing registry file at C:\WINDOWS\system32\config\system, error: 3. See <http://www.ultrabac.com/kb/error.asp?error=2237> for additional information.

UBDR is unable to mount the restored volume to updated critical drivers and registry keys.

Resolution:

1. Wipe the Master Boot Record or delete all existing partitions.
2. Restore the Master Boot Record, or create a target partition manually (using the Advanced Tools).
3. Restore the OS partition only with "Restoring to different hardware" checked.

Issue: When browsing to a BackupPath device, UBDR does not show the backup files.

UBDR does not show the backup files in the Browse screen.

Resolution:

1. Browse to the target folder and click "OK."
2. Select "File"/"Load Index For Restore/Verify" to scan the folder for a backup set index.
3. If no sets are found, ensure the correct path is listed in the BackupPath tab, under "Select"/"Storage Device."

Issue: System fails to boot after restore.

A system boot failure can show itself in several ways:

- Flashing/blinking cursor
- Ntldr failed to load message
- Blue Screen

Resolution:

Run chkdsk to find problems with the target disk:

1. Click "View"/"Show tasks."
2. Click "New Task (Run)."
3. Change to the drive letter assigned to the OS partition.
4. Type "chkdsk /f c:" and press "Enter."

```

X:\I386\system32\cmd.exe

X:\ubdr>chkdsk /f c:
The type of the file system is NTFS.

CHKDSK is verifying files (stage 1 of 3)...
File verification completed.
CHKDSK is verifying indexes (stage 2 of 3)...
Index verification completed.
CHKDSK is verifying security descriptors (stage 3 of 3)...
Security descriptor verification completed.

10482380 KB total disk space.
 2779332 KB in 12835 files.
   3496 KB in 1066 indexes.
     0 KB in bad sectors.
 69328 KB in use by the system.
 54464 KB occupied by the log file.
7630224 KB available on disk.

    4096 bytes in each allocation unit.
2620595 total allocation units on disk.
1907556 allocation units available on disk.

X:\ubdr>

```

Fig. 28 - Running chkdisk from the UBDR command window.

Issue: System fails to boot after restore.

A system boot failure can show itself in several ways:

- Flashing/blinking cursor
- Ntldr failed to load message
- Blue Screen

Resolution: The boot partition may not be marked Active.

To mark the partition as Active while booted into UBDR Gold:

1. Click "View"/"Show tasks."
2. Click "New Task (Run)."
3. Type "diskpart" and press "Enter".
4. At the DiskPart prompt, type "select disk <n>" and press "Enter."
5. At the next DiskPart prompt, type "select partition <n>" and press "Enter."
6. Type "active" and press "Enter."

```

Microsoft DiskPart version 5.2.3790.3959
Copyright (C) 1999-2001 Microsoft Corporation.
On computer: SERVER2

DISKPART> list volume

Volume ###  Ltr  Label          Fs          Type        Size     Status       Info
-----
Volume 0    H    New Volume    NTFS        Partition   28 GB     Healthy
Volume 1    F    DVD-ROM      DVD-ROM     DVD-ROM     0 B       Healthy
Volume 2    C                 NTFS        Partition   17 GB     Healthy     System
Volume 3    D    test         NTFS        Partition   2087 MB   Healthy
Volume 4    G    New Volume    NTFS        Partition   27 GB     Healthy

```

Fig. 29 - DiskPart from the command window.

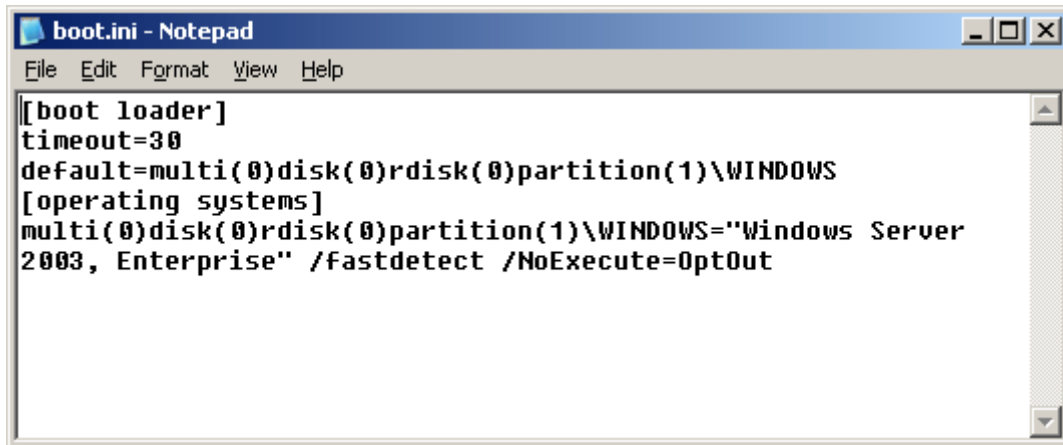
Issue: System fails to boot after restore.

A system boot failure can show itself in several ways:

- Flashing/blinking cursor
- Ntldr failed to load message
- Blue Screen

Resolution: The original system disk had an EISA partition and target disk does not have the partition. To fix this problem, edit boot.ini and change the boot partition from 2 to 1:

1. Click "View"/"Show tasks."
2. Click "New Task (Run)."
3. Type "notepad" and press "Enter."
4. Click "File"/"Open", and type "c:\boot.ini."
5. Modify the target partition to show 1 instead of 2.
6. Click "File"/"Save."



```
boot.ini - Notepad
File Edit Format View Help
[[boot loader]
timeout=30
default=multi(0)disk(0)rdisk(0)partition(1)\WINDOWS
[operating systems]
multi(0)disk(0)rdisk(0)partition(1)\WINDOWS="Windows Server
2003, Enterprise" /fastdetect /NoExecute=OptOut
```

Fig. 30 - Boot.ini in Notepad.