



Instant DR™ Evaluation Guide

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Table of Contents

Instant DR™	1
Evaluation Guide	1
Table of Contents	2
Introduction.....	3
Functional Overview:	4
Evaluation Guide Overview	4
Instant DR Operations	5
Installation and Setup	5
Complete Setup.....	7
Create and Duplicate Bootable Partitions	8
Drive Cloaking™ – Show & Hide Partitions	10
Instant DR verification	11
Initiate Hibernation.....	12
System Safe™	12
Names and Security Options in LDSE.....	13
Initiating a failure	14
Conclusion.....	15

Introduction

Thank you for your interest in evaluating LightNet's Instant DR software. The purpose of this evaluation guide is to ensure that you experience most of the unparalleled benefits of the application and allow you to become familiar with Instant DR's duplication and recovery technology first hand.

Instant DR is made up of two components that are based on a patented technology. The LightNet Data Security Engine (LDSE) is an enhanced boot loader that operates in the pre boot environment. The LDSE, once installed, will replace your current boot loader and offers the flexibility to load up to four truly independent operating systems on a single hard disk drive. The LDSE detects and boots active systems and allows the administrator/owner to protect and customize the computers multi system boot menu.

Please Note: The Data Security Engine adds instant data recovery assurance to the system by supporting boot strapping of hibernated systems for the fastest possible system startup available anywhere.

The second component is LightNet's Instant Disaster Recovery (Instant DR) user interface which replaces the Windows disk manager for bootable devices. The new interface allows one to easily duplicate and hide bootable or data partitions. The current program supports Win2000 and WinXP, it may be adapted to protect data running under other operating systems i.e. Linux, SCO, etc.... If you need to protect a large number of systems running an operating system not currently supported by this application, contact your sales rep to discuss your objectives.

Instant DR's Drive Cloaking™, Drive Duplication™ and System Safe™ functions protect, duplicate and hide system partitions allowing you to easily isolate and duplicate multiple systems on the same hard drive. Hidden systems are not accessible by any programs, viruses or software changes that may damage the currently live Operating system.

These programs synergistically add resilience to your computer's ability to boot an operating system from an undamaged hidden partition and greatly enhance its ability to protect its own systems and data from corruption. An infected or damaged system may be initiated from a hibernated partition on its own hard drive in a matter of seconds. Any number of machines may be recovered concurrently since Instant DR has no centralized or infrastructure dependencies. For Example: a failed system can recover itself with out any network, CD, or Floppy dependency.

An Instant DR recovery does not tax recovery and network infrastructure resources allowing for greater enterprise flexibility during a security incident. Master Boot Record utilities, a Command Line Interface and Read and Write Partition to file utilities complete our current Enterprise solution.

Functional Overview:

From the LDSE boot loader's screens you can:

- Password protect your entire computer
- Select which system partition to start
- Password protect the ability to boot any system
- Control security and system start-up options
- Initiate an Instant Recovery

From Instant DR menus you can:

- Password protect destructive functionality (i.e. format, delete)
- Duplicate System or Data partitions.
- Hide and Show Partitions (Drive Cloaking)
- Create, Delete, Erase and Format partitions
- Run Isolated systems (for Testing, Sharing or Recovery)
- Backup and Restore Master Boot Records
- Reset LDSE boot loader

Requirements:

- Instant DR is compatible with Windows XP and Windows 2000 Operating systems
- Instant DR requires the necessary disk space to store duplicate partitions.
- LDSE will boot valid operating system loaded on any primary partition and has been used successfully with DOS, DOS based windows, as well as, LINUX systems.
- You must have administrative access to run Instant DR

Evaluation Overview

The idea of data protection, security and recovery has become as mainstream as the PC itself. Before now, there has never been a more complete and secure set of enhanced tools combined in a single application designed to deliver instant recovery.

Topics:

- **Overview** - A brief description of Instant DR's main functions
- **Installation and Setup**- System requirements and step-by-step instructions for installing Instant DR
- **Evaluation Steps** - Step-by-step instructions for basic Instant DR operations
- **Conclusion** - Final words on your Instant DR evaluation

Overview

The Instant DR program suite performs these basic operations:

- **LightNet's Data Security Engine (LDSE - Boot Loader)**—Selects and protects all available systems currently on the PC.
- **Drive Duplication** - Duplicate bootable or data partitions to be used for archival, testing and instant recovery.
- **Drive Cloaking** - Easily hides partitions from the currently loaded operating system.
- **Instant Recovery** – Boot from a previously hibernated (sleeping) system within seconds following a security incident e.g. virus attack.

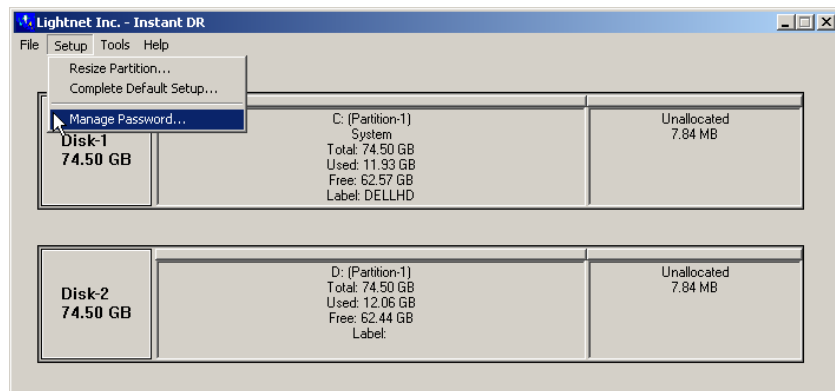
Additional operations such as MBR (Master Boot Record) recovery, wiping partition data, standard command line and disk viewer capabilities are also included. For complete details review the help file within the Instant DR application.

Installation and Setup

The Setup of the Instant DR program suite comprises these basic operations:

1. Run IDR-Full.exe from the download location or CD-ROM
2. Create administrative password
3. Resize existing partition(s) to create free space
4. Install LightNet's Data Security Engine (LDSE)
5. Create and/or duplicate bootable or data partitions
6. Enter system names and security options in LDSE

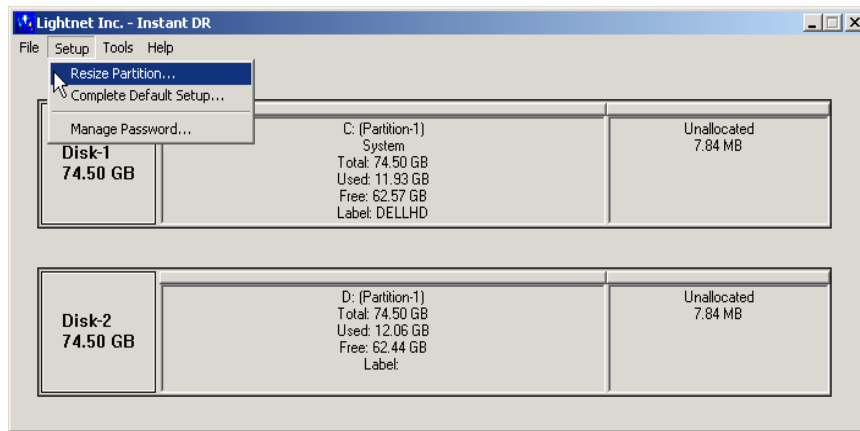
After you have successfully completed the install, we suggest that you create an administrative password.



By default there is not password assigned therefore leave the “Old Password” field empty and enter and confirm your new password. *Be sure to remember this password.*

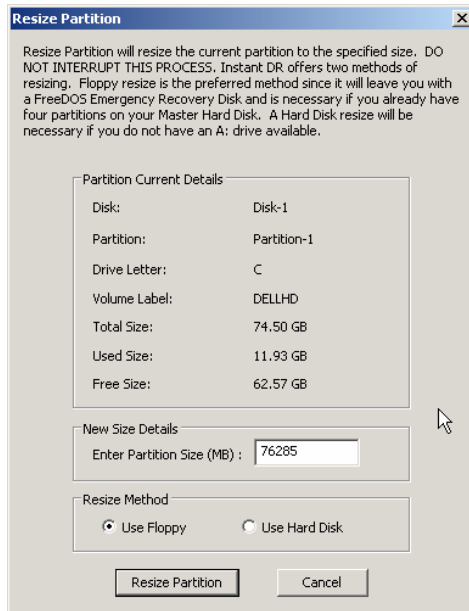


The next step is to create the space that will store the duplication of either a system or data partition. From the LightNet Instant DR main screen, select “Setup” then “Resize Partition”



From the Resize Partition screen (shown below) choose the new size for your Main system partition and the resize method. Please read the screen carefully and use the floppy disk method to resize if possible. The Floppy disk resize method will create an emergency boot diskette during the resize process. When choosing a new partition size, remember to leave room for system growth, swap, paging and hibernation files (recommended 6GB minimum).

NOTE: 1GB = 1024MB so, decide on the number of Gigabytes you want to make for your initial system partition and multiply that number by 1024. To make a 4GB partition, multiply 4 X 1024 = 4096 and input that number (4096) in the “Enter Partition Size (MB)” selection box at the bottom of the Resize Partition screen.

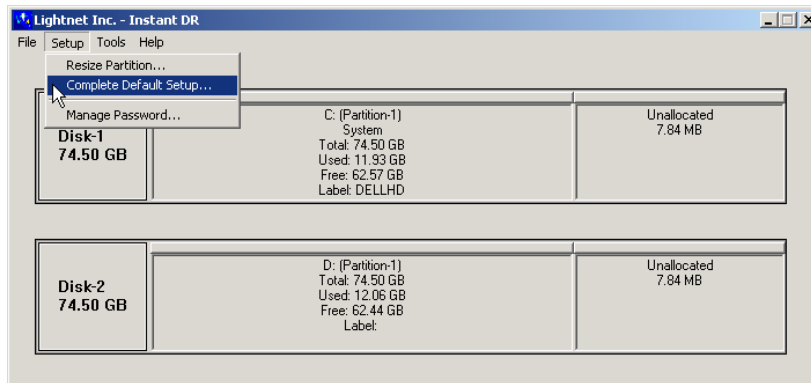


IMPORTANT! Once the Resize process has started;

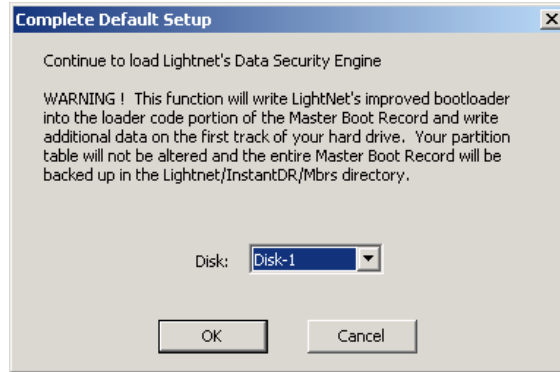
1. Follow the instructions on the Screen and
2. DO NOT interrupt this process once it has been started

Complete Setup

From the Setup Menu Select Complete Default Setup



From the Complete Default Setup up Screen (shown below) Choose your Master Boot Device (Typically Disk-1) and then OK.



You have now installed Instant DR and have created the free space necessary to duplicate your system. The LDSE will boot any primary partition on the master device that is loaded with a valid operating system.

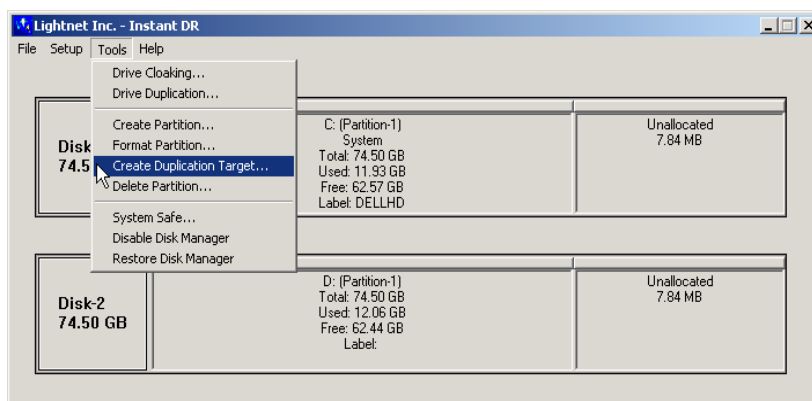
Evaluation Steps

Create Instant DR Duplicate Bootable Partitions

Create a Duplication Target

Purpose: To create a duplication target in the available free space on your drive by first choosing the Hard Disk and Partition you want to duplicate and then choosing the Hard Disk and the Free Space where the new partition is to be created.

From the Tools Menu Select Create Duplication Target to bring up the “Create Duplication Target” Screen

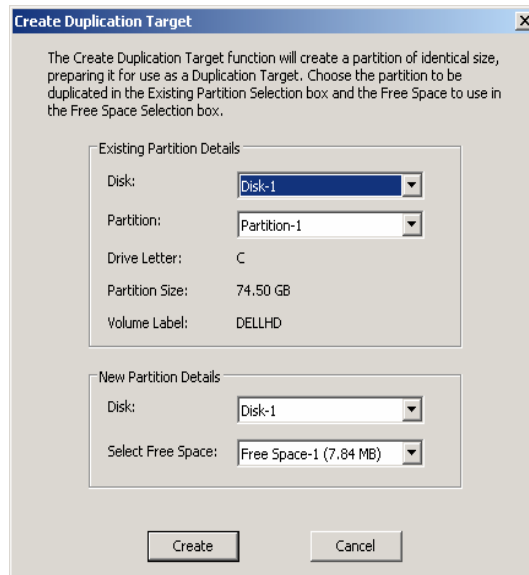


If there is no available Free Space and you do not already have Duplication Targets available, then you have not correctly planned your Instant DR installation and should return to the Setup Partition Layout Detail section of this Guide.

The following steps refer to the figure below:

3. Select the Partition to duplicate by Selecting the Disk and Partition information in the Existing Partition Details selection boxes

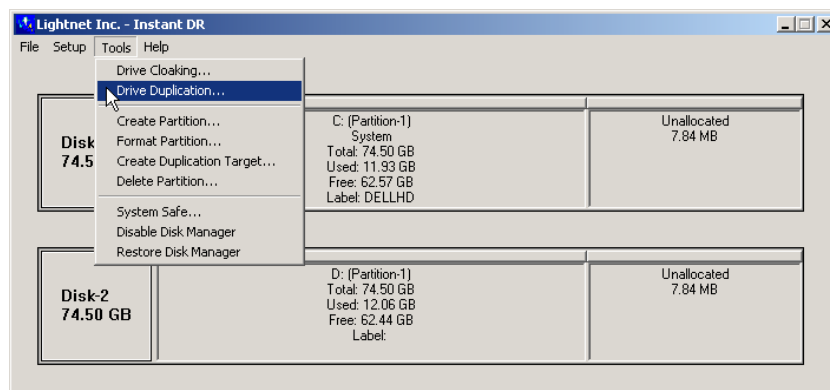
4. The screen will display the Drive Letter, Partition Size and Volume label of the source partition you have chosen.
5. Choose the target area for the partitions duplicate by selecting the new partition's Disk and available Free Space in the selection boxes under the New Partition Details heading.
6. Click on the Create button to Create this Duplication Target in the Selected Free Space
7. You may repeat this process to create more duplication targets at any time.

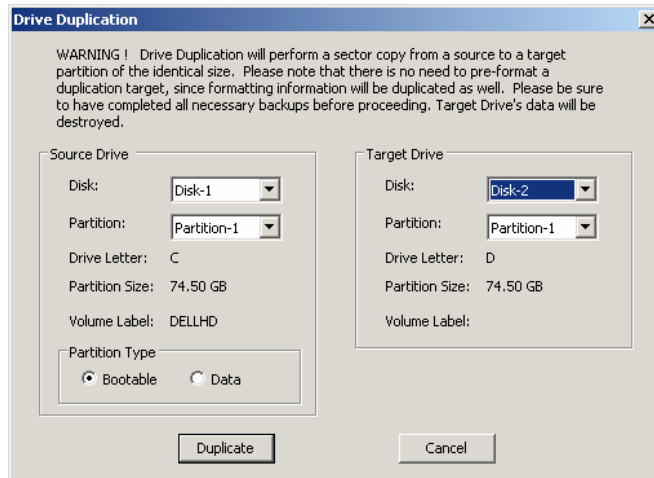


Drive Duplication

Purpose: To duplicate instantly bootable systems for recovery, testing or BCP planning, by first choosing the Source and then the Target Partition.

From the Tools Menu Select Drive Duplication to bring up the Drive Duplication Screen.





1. Choose the Source partition to be duplicated in the Source Drive section to the left of the screen
2. Choose the Target Partition on the right side of the screen
3. Click on the Duplicate button to proceed with the duplication
4. A progress bar will appear on the screen during this operation

This operation cannot be interrupted!

Additional Detail:

Instant DR's Drive Duplication makes an exact sector copy of the source partition. The accuracy of this method insures that all compression, encryption or data manipulation algorithms will remain unaffected by the duplication process.

If you duplicate the primary bootable partition onto a second hard disk, that disk must become the master device and made active before it will boot.

Duplication Requirements

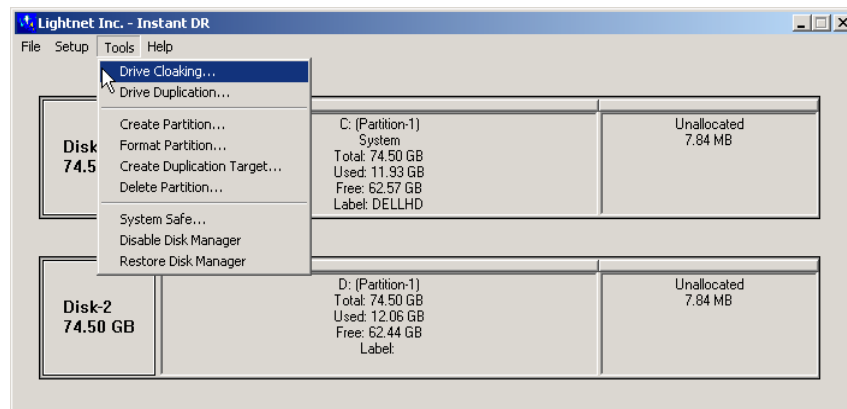
Both the Source and Target partitions must not be hidden (See Drive Cloaking).

It is not necessary to pre-format a Target partition. The source partition will be copied along with its formatting information.

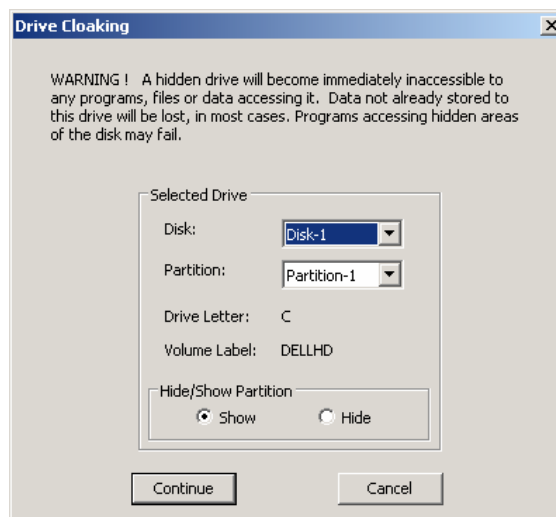
Drive Cloaking™ – Show & Hide Partitions

Description: The Drive Cloaking function allows you to show or hide partitions. When a partition is hidden it will become immediately inaccessible to any programs, files or data.

Select Drive Cloaking from the Tools Menu



Select a Disk and Partition - The Hide/Show Partition Radio buttons will display the current status of the selected partition.



Hide the selected partition by choosing the "Hide" button and clicking "continue".

Instant DR verification

In order to verify the integrity and independence of the system duplicate you have just created, perform the following steps:

1. Boot the machine and enter the LDSE loader
2. Select the newly created system and re-boot
3. Verify that the running system is the duplicate by opening Instant DR and noting which partition is marked as "system"
4. The system partition number should match the Target Partition number entered in the Drive Duplication step.

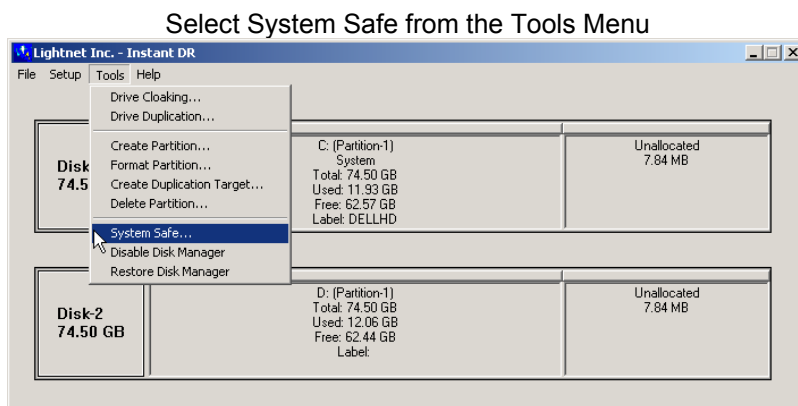
Initiate Hibernation

Once you have duplicated a valid system partition you may use it for any purpose. When you want a particular partition to be available for Instant Recovery, perform the following steps:

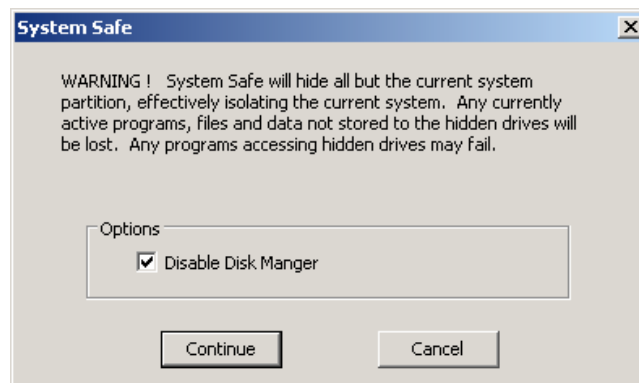
5. Boot to the system you wish to Instantly Recover,
6. Enable Hibernation from the power options in the control panel if it is not already enabled.
7. Hibernate the system.
8. To instantly recover just boot the hibernated system.

System Safe™

Description: System Safe hides all but the currently running system partition and optionally removes Windows's Disk Manager. System Safe leaves the current system partition accessible to the running system but removes all other disk drive letters from the system. Disabling the Windows Disk Manager prevents a user from assigning a drive letter and performing destructive functions to a hidden partition.



The System Safe screen disables Windows Disk Manager by default. Proceed by Clicking on the Continue button.



After the operation has completed successfully you will see all of the partitions are hidden and

their drive letters removed from the My Computer and Explorer windows. You may see a protected file warning indicating that system files have been removed

Names and Security Options in LDSE

LightNet's Data Security Engine (LDSE) enhances the pre-boot environment with security and startup options. The LDSE runs in a command (green) screen mode (keyboard only). The LDSE boot loader is your Virtual PC organizer.

Usage:

During the PCs Startup you will see "Welcome to Lightnet's Data Security Engine" followed by a ten second countdown "9876543210"

Enter the LDSE screen by hitting the "L" key during the ten second countdown.

The LDSE Main Screen presenting four options.

1. Choose the number of the system to boot (Hit 1, 2, 3 or 4)
2. Setup LDSE Start up and Security Options (Hit "S")
3. Edit System Names (Hit "N")
4. Passwords (Hit "P")

To Boot a System

Select the system you would like to boot from by typing its number. The computer will immediately boot the chosen system. Note: If there is not a valid operating system on the selected partition an error message will be displayed along with instructions to hit 'Ctrl- Alt- Delete' to reboot. Type "L" during boot-up and reselect a bootable partition.

To Edit System Names

1. From the LDSE main screen type "N" to enter "name screen". Select the system by number and enter a name up to 16 characters long.
2. The system name will immediately be changed on the screen when you enter the new name.
3. Choose another list number to change another system's name.
4. Hit "Q" to return to the LDSE Main Screen.

System Passwords:

Description: Disables starting the system without a password.

Steps:

1. From the LDSE main screen type "P" to enter password screen
2. Type the list number of the system you wish to password protect
3. Enter the password

4. Confirm the password
5. Hit "Q" to exit to the LDS main screen

To set Startup and Security Options:

Steps:

1. From the main LDSE screen type "S" to enter the start-up & security screen
2. Select the feature you wish to enable by number
3. Choose another list number to set another feature
4. Type "3" to select password protect boot loader
5. Enter and confirm your new boot loader password
6. Hit "Q" to exit to the LDS Main Screen

Initiating a failure (DO NOT ATTEMPT THIS ON A PRODUCTION SYSTEM)

The next few steps will guide you through causing a failure of the currently running Windows system. For the purpose of this example, we will assume that your current system drive is assigned the letter C: We have also provided a batch file (destruct.ba) to execute these commands if you do not wish to type them in yourself. Please read the batch file so that you can verify the commands and drive letter assignments. This procedure will destroy the operability of the current system partition. For this reason we require that you change the name of the destruct.ba to destruct.bat in order to run the file. You will find this file in the Lightnet\InstantDR directory where you installed the Instant DR.

Command line option:

1. Bring up a Windows command console by choosing "run" from the start menu. Type "cmd" in the selection box then hit enter.
1. Type CD \ <Enter> to get to the root directory of your system drive.
2. Type attrib -r -s -h boot.ini <Enter>
3. Type attrib -r -s -h ntldr <Enter>
4. Type attrib -r -s -h NTDETECT.COM <Enter>
5. Type delete boot.ini <Enter>
6. Type delete ntldr <Enter>
7. Type delete NTDETECT.COM <Enter>

You have now removed three of the files which Windows XP and Windows 2000 systems require in order to boot. You may test this by rebooting your system. The LDSE defaults to the same system that was booted the previously.

You will see a boot failure message from the boot loader which may read “ntldr not found” or “not a valid operating system”.

Performing an Instant Recovery

1. Reboot the failed machine and Type "L" to enter LDSE.
2. Select the hibernated system by typing its number and watch your system be instantly restored.

Conclusion

Thank you for your evaluation of this advanced patented disaster recovery application. Instant DR™ has been designed for users of all experience levels. Now that you have followed the steps outlined in this guide, the benefits should be quite apparent.

We have all experienced various levels of data corruption or loss. Some of us have experienced data loss that resulted in a significant loss on a financial basis. With Instant DR™, your loss will be minimized. By removing data loss caused by virus attacks or software corruption from the equation, the investment you make in Instant DR™ will be inconsequential.

After you have evaluated the benefits of Instant DR™, you can explore other ways to enhance and optimize your specific environment. Please contact LightNet, Inc., and our professional services and training team, to help you realize the full potential Instant DR™ for your enterprise. Instant DR's command line utilities deliver comprehensive and flexible disaster recovery options to fit your exact needs. LightNet solutions further help avoid costly downtime and reduce support and infrastructure demands during a security incident.

If you have questions on Instant DR™, including volume pricing and product features, call LightNet's enterprise experts at: (201) 264-3505, or send an e-mail to: sales@lightnet.com.