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Special REPORT

Test Results for Disk Imaging Tools: dd GNU fileutils 4.0.36, Provided with Red Hat Linux 7.1

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Introduction

The Computer Forensics Tool Testing (CFTT) project is the joint effort of the National Institute of Justice, the National Institute of Standards and Technology (NIST), as well as, the Department of Defense, the Technical Support Working Group, and other related agencies. The objective of the CFTT project is to provide measurable assurance to practitioners, researchers, and other applicable users that the tools used in computer forensics investigations provide accurate results. Accomplishing this requires first, the development of specifications and test methods for computer forensics tools, and then subsequent testing of specific tools against those specifications.

The test results provide the information necessary for toolmakers to improve tools, users to make informed choices, and the legal community and others to understand the tools' capabilities. The use of well-recognized methodologies for conformance and quality testing serves as the foundation of our approach for testing computer forensics tools. Plus, in an effort to further develop the specifications and test methods, we encourage the entire forensics community to visit the CFTT web site (www.cftt.nist.gov) where drafts are accessible for both commentary and review.

This document reports the results from testing one commonly used disk imaging tool, the **dd** GNU fileutils 4.0.36 provided with Red Hat Linux 7.1, against the Disk Imaging Tool Specification, developed by the CFTT staff (available through the Internet at http://www.cftt.nist.gov/DI-spec-3-1-6.doc). This specification identifies the top-level disk imaging tool requirements as:

- The tool shall make a bit-stream duplicate or an image of an original disk or partition
- The tool shall not alter the original disk
- The tool shall log I/O errors
- The tool's documentation shall be correct

Note: The test methodology is for software tools that copy or image hard disk drives. It does not cover analog media or digital media such as cell phones or personal digital assistants (PDAs).

Test Results for Disk Imaging Tools

Tool Tested: **dd** GNU fileutils 4.0.36, provided with Red Hat Linux 7.1
                         Operating System: Red Hat Linux 7.1

Supplier: Free Software Foundation (GNU fileutils)
Address: 59 Temple Place - Suite 330
                     Boston, MA 02111-1307, USA
Phone: 617-542-5942
Web: http://www.gnu.org

Supplier: Red Hat, Inc. (Red Hat Linux)
Address: P.O. Box 13588
                     Research Triangle Park, NC 27709
Phone: 919-547-0012
Web: http://www.redhat.com

1. Results Summary by Requirements

The tool shall not alter the original disk

For all 32 cases that were run, a SHA-1 hash was created on the source, the test case was run and a SHA-1 hash was created on the source after the run. In all cases the hash codes matched, i.e. the source was not altered.

The tool shall make a bit-stream duplicate or an image of an original disk or partition.

In all cases tested, the utility **dd** produced an accurate bit-stream duplicate or an image on disks or partitions of all disk sectors copied. However, for a source (either a disk drive or a partition) with an odd number of sectors, the last sector of the source was omitted. For many file systems and operating environments, the last sector of a hard disk drive or the last sector of a partition is either only accessible by a special purpose software tool or not accessible at all.

The tool shall log I/O errors

Assertions requiring read or write errors were not tested. The utility **dd** did produce a log message that there was no space left on the destination when the source was greater than the destination.

The tool's documentation shall be correct.

No errors were found in the documentation supplied.

2. Test Results by Assertion

This section presents the results of **dd** testing with results grouped by assertion. The assertions are taken from the *Disk Imaging Tool Specification*, Version 3.1.6. [http://www.cftt.nist.gov/DI-spec-3-1-6.doc]

2.1 Mandatory Assertions

If a source is accessed by the tool, then the source will not be altered.
After each source disk is created, a SHA-1 hash value is calculated and saved. Each time the tool is run, another SHA-1 hash is calculated and compared to the saved value. For all 32 test cases that were run the hash codes matched, i.e. the source was not altered.

If there are no errors reading from a source, nor errors writing to a destination, then a bit-stream duplicate of the source will be created on the destination.
The column labeled *Sectors Compared* is the number of disk sectors that should have been copied from the source to the destination. The column labeled *Not Matched* is the number of sectors of the destination that did not match the corresponding source disk sector.

Test Case	Sectors Compared	Not Matched
DI(Linux)-01	40188960	0
DI(Linux)-02	40188960	0
DI(Linux)-03	39102336	0
DI(Linux)-04	1236942	0
DI(Linux)-05	6152832	0
DI(Linux)-06	5943987	1
DI(Linux)-07	17938985	1
DI(Linux)-08	17938985	1
DI(Linux)-09	17921835	1
DI(Linux)-10	1236942	0
DI(Linux)-11	6152832	0
DI(Linux)-12	1140552	0
DI(Linux)-13	40188960	0
DI(Linux)-14	17921835	1
DI(Linux)-15	17938985	1
DI(Linux)-16	39102336	0
DI(Linux)-18	40188960	0
DI(Linux)-20	40188960	0
DI(Linux)-21	39102336	0
DI(Linux)-23	6152895	1
DI(Linux)-27	6152832	0
DI(Linux)-30	5943987	1
DI(Linux)-33	17938985	1
DI(Linux)-35	17938985	1
DI(Linux)-36	17921835	1
DI(Linux)-38	1236942	0
DI(Linux)-42	6152895	1
DI(Linux)-45	1140552	0
DI(Linux)-48	40188960	0
DI(Linux)-49	17921835	1
DI(Linux)-51	17938985	1
DI(Linux)-52	39102336	0

If there are errors reading from a source or writing to a destination, then a qualified bit-stream duplicate of the source will be created on the destination. The identified areas are replaced by values specified by the tool's documentation.

This assertion was not tested.

If there are errors reading from the source or writing to the destination, then the error types and locations are logged.
This assertion was not tested.

If the source or destination is an IDE or SCSI drive and an image or bit-stream duplicate is created, then the interface used is presumed to be among those specified in 5.1.5. [Requirement 5.1.5 The tool shall be able to access disk drives through one or more well-defined interfaces.]

Test Case	Source Drive Interface	Destination Drive Interface
DI(LINUX)-01	IDE	IDE
DI(LINUX)-02	IDE	IDE
DI(LINUX)-03	IDE	IDE
DI(LINUX)-04	IDE	IDE
DI(LINUX)-05	IDE	IDE
DI(LINUX)-06	IDE	IDE
DI(LINUX)-07	SCSI	SCSI
DI(LINUX)-08	SCSI	SCSI
DI(LINUX)-09	SCSI	SCSI
DI(LINUX)-10	SCSI	SCSI
DI(LINUX)-11	SCSI	SCSI
DI(LINUX)-12	SCSI	SCSI
DI(LINUX)-13	IDE	SCSI
DI(LINUX)-14	IDE	SCSI
DI(LINUX)-15	SCSI	IDE
DI(LINUX)-16	SCSI	IDE
DI(LINUX)-17	IDE	IDE
DI(LINUX)-18	IDE	IDE
DI(LINUX)-19	IDE	IDE
DI(LINUX)-20	IDE	IDE
DI(LINUX)-21	IDE	IDE
DI(LINUX)-22	IDE	IDE
DI(LINUX)-23	IDE	IDE
DI(LINUX)-24	IDE	IDE
DI(LINUX)-25	IDE	IDE
DI(LINUX)-26	IDE	IDE
DI(LINUX)-27	IDE	IDE
DI(LINUX)-28	IDE	IDE
DI(LINUX)-29	IDE	IDE
DI(LINUX)-30	IDE	IDE
DI(LINUX)-31	IDE	IDE
DI(LINUX)-32	SCSI	SCSI
DI(LINUX)-33	SCSI	SCSI
DI(LINUX)-34	SCSI	SCSI
DI(LINUX)-35	SCSI	SCSI
DI(LINUX)-36	SCSI	SCSI
DI(LINUX)-37	SCSI	SCSI
DI(LINUX)-38	SCSI	SCSI
DI(LINUX)-39	SCSI	SCSI
DI(LINUX)-40	SCSI	SCSI
DI(LINUX)-41	SCSI	SCSI
DI(LINUX)-42	SCSI	SCSI
DI(LINUX)-43	SCSI	SCSI
DI(LINUX)-44	SCSI	SCSI

Test Case	Source Drive Interface	Destination Drive Interface
DI(LINUX)-45	SCSI	SCSI
DI(LINUX)-46	SCSI	SCSI
DI(LINUX)-47	IDE	SCSI
DI(LINUX)-48	IDE	SCSI
DI(LINUX)-49	IDE	SCSI
DI(LINUX)-50	SCSI	IDE
DI(LINUX)-51	SCSI	IDE
DI(LINUX)-52	SCSI	IDE

If the expected result of any test defined in this specification is achieved and the documentation was followed without change in achieving this result, then the documentation is presumed correct.
There were no errors found in the documentation [GNU File Utilities Manual for version 3.16, http://www.gnu.org/manual/fileutils-3.16/fileutils.html].

If a bit-stream duplicate of a source is created on a larger destination, then the contents of areas on the destination that are not part of the duplicate are set to values as specified in the tool documentation. [If the documentation does not specify behavior, the tool should not impact the excess sectors.]
In all test cases, the excess sectors of the destinations were not changed.

If a bit-stream duplicate of a source is created on a smaller destination, then the duplicate is qualified by omitted portions of the bit-stream and the tool will notify the user that the source is larger than the destination.
The following cases involve a destination smaller than the source. The column labeled *Sectors Compared* is the number of disk sectors that should have been copied from the source to the destination. The column labeled *Not Matched* is the number of sectors of the destination that did not match the corresponding source disk sector. The column labeled *Message from dd* records any message from **dd** indicating a destination that is too small.

Test Case	Sectors Compared	Not Matched	Message from dd
DI(Linux)-03	39102336	0	dd: writing /dev/hdb: No space left on device
DI(Linux)-06	5943987	1	dd: writing /dev/hdb1: No space left on device
DI(Linux)-09	17921835	1	dd: writing /dev/sdb: No space left on device
DI(Linux)-12	1140552	0	dd: writing /dev/sdb1: No space left on device
DI(Linux)-14	17921835	1	dd: writing /dev/sdb: No space left on device
DI(Linux)-16	39102336	0	dd: writing /dev/hdb: No space left on device
DI(Linux)-21	39102336	0	dd: writing /dev/hdb: No space left on device
DI(Linux)-30	5943987	1	dd: writing /dev/hdb1: No space left on device
DI(Linux)-36	17921835	1	dd: writing /dev/sdb: No space left on device
DI(Linux)-45	1140552	0	dd: writing /dev/sdb1: No space left on device
DI(Linux)-49	17921835	1	dd: writing /dev/sdb: No space left on device
DI(Linux)-52	39102336	0	dd: writing /dev/hdb: No space left on device

2.2 Optional Assertions

If an implementation provides a capability covered by one or more of the following optional assertions, then tests derived from those assertions will be applied to the implementation.

If a hash of one or more blocks (i.e., less than the entire disk) from the source is computed before duplication and is compared to a hash of the same blocks from the destination, the hashes will compare equal.
This product does not provide the functionality described.

If more than one partition exists on the source disk, the tool will produce a duplicate of any user-selected source partition on the destination.

Test Case	Partition Type	Sectors Compared	Not Matched
DI(LINUX)-04	FAT16	1236942	0
DI(LINUX)-05	FAT32	6152832	0
DI(LINUX)-06	LINUX	5946987	1
DI(LINUX)-10	NTFS	1236942	0
DI(LINUX)-11	FAT32	6152832	0
DI(LINUX)-12	FAT16	1140552	0
DI(LINUX)-23	LINUX	6152895	1
DI(LINUX)-27	FAT32	6152832	0
DI(LINUX)-30	FAT32	5943987	1
DI(LINUX)-38	NTFS	1236942	0
DI(LINUX)-42	LINUX	6152895	1
DI(LINUX)-45	FAT16	1140552	0

If a partition exists on the source, the tool will display or log a message indicating that the partition exists and display or log one or more items of information from the following list: drive indicator, device type, device address or mount point, size, space used, and free space.
This product does not provide the functionality described.

If the tool logs the tool version, it will be the version referred to in the implementation's documentation.
This product does not provide the functionality described.

If the subject disk identification is available and the tool is capable of logging the subject disk identification, then the subject disk identification will be logged.
This product does not provide the functionality described.

If the tool logs the source partition table in human readable form and the information from the source partition table can be ascertained independently from the tool, then the source partition table information will accurately match the content of the independent partition table information.
This product does not provide the functionality described.

If the tool logs errors and any error occurs, then the type and location of the error will be logged.
This assertion was not tested.

If the tool logs tool actions and the tool's documentation states what actions are logged, then the actions logged will accurately match those documented in the tool's documentation.
This product does not provide the functionality described.

If the tool logs start and finish run times, then the logged start and finish run times will accurately match those recorded by the tester according to screen input images, test input scripts, or tester notes.
This product does not provide the functionality described**.**

If the tool logs tool settings and the tool's documentation states what settings are logged, then the logged settings will accurately match those set by the tester or as documented in the tool's documentation.
This product does not provide the functionality described**.**

If the tool logs user comments, then the logged user comments will accurately match those entered by the tester as captured in screen input images, test input scripts, or tester notes.
This product does not provide the functionality described**.**

If the tool creates image files, then it will create an image file of a source on a magnetic medium that can be removed from the platform on which it was created.
This product does not provide the functionality described**.**

If the tool creates an image file from a source on a removable magnetic medium, then a duplicate of the source created from the removable magnetic medium will result in a duplicate on the destination and the destination will compare equal to the source.
This product does not provide the functionality described**.**

If an image file is created, and there are no errors reading from a source, nor errors writing to a destination, then a bit-stream duplicate created from the image file will compare equal to the source.

Test Case	Sectors compared	Not matched
DI(LINUX)-18	40188960	0
DI(LINUX)-20	40188960	0
DI(LINUX)-21	39102336	0
DI(LINUX)-23	6152895	1
DI(LINUX)-27	6152832	0
DI(LINUX)-30	5943987	1
DI(LINUX)-33	17938935	1
DI(LINUX)-35	17938985	1
DI(LINUX)-36	172921835	1
DI(LINUX)-38	1236942	0
DI(LINUX)-42	615895	1
DI(LINUX)-45	1140552	0
DI(LINUX)-48	40188960	0
DI(LINUX)-49	17921835	1
DI(LINUX)-51	17938985	1
DI(LINUX)-52	39102336	0

3. Testing Environment

The tests were run on five host computers: **Cadfael, Morse, Rumpole, Wimsey,** and **JudgeDee**. More than 20 hard drives (7 different models, 5 different brands) were used for the tests (Table

2). The tests were run with the hard drives arranged in one of five possible configurations (Table 3) as required by the test parameters.

3.1 Host Computers

The five host computers had the following hardware components in common:

Table 1. Host Computer Hardware Components

ASUS CUSL2 Motherboard
Intel Pentium III (Coppermine) 933Mhz
512672k Memory
Adaptec 29160N SCSI Adapter card
Plexor CR-RW PX-W124TS Rev: 1.06
Iomega 2GB Jaz drive Rev: E.17
LS-120 Super floppy
Two slots for removable IDE hard disk drives
Two slots for removable SCSI hard disk drive

The computers **Morse** and **Rumpole** also had a 30GB OnStream SC30 tape drive each (not used in the test procedures). The computer **JudgeDee** had a third slot for a removable IDE hard disk drive.

3.2 Hard Disk Drives

The hard disk drives that were used are listed in Table 2. These hard drives were mounted in CRU DataPort™ removable storage modules. Any combination of two IDE hard drives and two SCSI hard drives can be installed in a host computer as required for a test.

The IDE disks have jumpers set for *cable select*. The SCSI ID for the SCSI disk is set to either 0 or 1 as required by the test case. Except as noted, a source disk is set to ID 0 and a destination disk is set to ID 1.

Table 2. Hard Disk Drives Used

Label	Disk Drive Model	Sectors	Interface	Capacity
A5	WDC WD200BB-00AUA1	39102336	IDE	20.02
A6	WDC WD200BB-00AUA1	39102336	IDE	20.02
A8	WDC WD200BB-00AUA1	39102336	IDE	20.02
A9	WDC WD200BB-00AUA1	39102336	IDE	20.02
AA	Maxtor53073H4	60030432	IDE	30.73
AB	Maxtor53073H4	60030432	IDE	30.73
AD	Maxtor53073H4	60030432	IDE	30.73
AE	Maxtor53073H4	60030432	IDE	30.73
CB	SEAGATE ST336705LC	71687370	SCSI	36.70
CC	SEAGATE ST336705LC	71687370	SCSI	36.70
CD	SEAGATE ST336705LC	71687370	SCSI	36.70
CE	SEAGATE ST336705LC	71687370	SCSI	36.70
E0	QUANTUM ATLAS10K2-TY092J	17938985	SCSI	9.18
E3	QUANTUM ATLAS10K2-TY092J	17938985	SCSI	9.18
E4	QUANTUM ATLAS10K2-TY092J	17938985	SCSI	9.18
E6	SEAGATE ST318404LC	35843670	SCSI	18.35

Label	Disk Drive Model	Sectors	Interface	Capacity
EA	SEAGATE ST39204LC	17921835	SCSI	9.17
EB	SEAGATE ST39204LC	17921835	SCSI	9.17
F5	IBM-DTLA-307020	40188960	IDE	20.57
F6	IBM-DTLA-307020	40188960	IDE	20.57
F7	IBM-DTLA-307020	40188960	IDE	20.57
F8	IBM-DTLA-307020	40188960	IDE	20.57

3.3 Test Configurations

The hard drive setup is determined by the test case parameters. Three disks are required for each test case, *source, destination* and *boot/media*. The source disk provides something to copy. The destination disk provides a place to put the copy. The boot/media disk has two functions; it provides the Linux environment for the execution of **dd**, and it provides a place to put the image file for test cases that require the creation of an image file. Generally the DOS Boot floppy creates the run-time environment for the test case setup and measurement, a removable hard disk drive contains a bootable Linux system, and a Jaz disk contains the support software, control scripts, log files and utility software. The support software provides for setup of test data, measurement of test results, and control of the test process.

The factors determining the source disk selection are the source disk interface and type of partition to copy. A disk is selected with the matching interface and containing a partition of the type required for the test case. The factors for the selection of the destination drive are the destination interface and the relative size parameters. A drive is selected with the specified interface and, for whole disk copies, size relative to the source. For partition copies, the actual size of the destination drive does not matter since it is the size of the partition on the destination that is relevant. After the source and destination drives are selected, the boot/media disk is selected for one of the two available drive slots.

The five system hard drive and boot configurations used for the tests are presented in Table 3. The *Source* column indicates where the source drive is mounted. Only the primary IDE channel was used. The drive was usually positioned as *drive 0*, however two test cases had the source drive positioned as *drive 1*. SCSI source drives were set to SCSI ID 0. The *Destination* column indicates the positioning of the destination drive. The *Boot/Media* column indicates the positioning of the destination drive. The *BIOS Boot Order* indicates the BIOS setting for Boot order required for the test so that a Linux environment is established for **dd** execution. For test cases using system configuration 3, two host computers were used and the steps of the test procedure that are executed in a DOS environment are performed on a system with a *BIOS boot order* of *Floppy, IDE*.

Table 3. System Configurations

ID	Source	Destination	Boot/Media	BIOS Boot Order
1	IDE primary 0	IDE primary 1	SCSI ID 0	Floppy, SCSI
2	SCSI ID 0	SCSI ID 1	IDE primary 0	Floppy, IDE
3	IDE primary 0	SCSI ID 1	SCSI ID 0	Floppy, SCSI (**dd** only)
4	SCSI ID 0	IDE primary 1	IDE primary 0	Floppy, IDE
5	IDE primary 1	SCSI ID 0	IDE primary 0	Floppy, IDE

3.4 Support Software

Support software was developed to support the testing of disk imaging tools [url]. The support software serves five main functions: initialization of a disk to a known value [diskwipe], comparison of a source with a destination [DISKCMP, PARTCMP, ADJCMP, SECCMP], detection of changes to a disk [PARTAB], simulation of a faulty disk [BADDISK and BADX13], and other common routines such as hashing [DISKHASH, SECHASH]. All programs were written in ANSI C (except for BADDISK and BADX13) and compiled with the Borland C++ compiler version 4.5. BADDISK and BADX13 were written in assembler language and compiled with Borland Turbo Assembler version 5.0. The support software used is identified in the test results summaries.

3.5 Basic Structure of Test Cases

A test case has three basic parts, setup, execution of the tool, and interpretation of the results. The setup for the test case was done in the DOS environment and involved the following steps:

> Initialize a source disk to a known value.
> Hash the source disk and save the hash value.
> Initialize a destination disk.
> If the test requires a partition on the destination, create and format a partition on the destination disk.
> If the test uses an image file, partition and format a media disk.

Executing the support software required for each test was done in the DOS environment. Executing the tool being tested, **dd**, was done in the Linux environment. The steps in this execution phase are.

> If the test requires a disk I/O error, setup disk error simulation.
> If the test requires an image file, use the tool to create an image file of the source on the media disk.
> If the test requires a corrupted image file, corrupt the image file.
> Use the disk imaging tool to create the destination disk either from the source disk directly or by restoring an image file of the source to the destination.

Evaluation of the test results basically has two steps; comparing the source to the destination to see what bits match and compute a hash of the source disk again so that this result can be compared with the saved hash value to verify that the source disk was not altered.

3.6 Special Procedures

A special procedure was used to determine if a tool has modified any of the excess sectors of a partition copy where the destination is larger than the source. If a FAT partition is copied, the following procedure was sufficient to determine if a tool has changed any of the excess sectors:

1. Initialize the destination disk with the **diskwipe** program.
2. Create the destination partition.
3. Run the tool being tested.
4. Compare the source partition to the destination partition with the **partcmp** program.

Creating a FAT partition overwrites some sectors near the beginning of the partition for the *file allocation table*, but leaves most of the sectors in the partition alone, i.e., the excess sectors of the partition retain the original content produced by **diskwipe**. The **partcmp** program examines the excess sectors of the destination and assigns each sector to one of several possible categories. The **partcmp** program then writes the number of sectors in each category to a log file. Any sectors that are changed by the tool are counted in a category other than the *destination filled* category. If the tool has not changed any of the excess sectors, all of the excess sectors are assigned to the *destination filled* category.

This procedure may not be sufficient to determine if the excess sectors of non-FAT partition types are unchanged by a tool. If creating a partition modifies any of the excess sectors of the partition then additional steps are required to determine if the tool has changed any of the excess sectors of the destination partition. The following procedure can be used to determine if a tool has modified any of the excess sectors:

1. Initialize the destination disk with the **diskwipe** program.
2. Create the destination partition.
3. Compute a SHA-1 hash over the excess sectors with the **sechash** program.
4. Run the tool being tested.
5. Compute a second SHA-1 hash over the excess sectors.
6. Compare the source partition to the destination partition with the **partcmp** program.

If the tool has changed any of the excess sectors, then the two SHA-1 values will differ. If the two SHA-1 values are the same, the tool has not changed any of the excess sectors.

Test cases 10 and 38 involve NTFS partitions; test case 23 involves a Linux (EXT2) partition. The second procedure was applied to test cases 10, 23 and 38. In all three cases the hashes of the excess sectors were the same before and after running **dd**. The results are presented in Table 4. The column labeled *Case* is the test case. The *Step* column indicates if the hash value is computed before (**PRE**) or after (**POST**) running the tool. The *Total* column indicates the total number of sectors hashed. The *From LBA* and *To LBA* columns present the starting and ending LBA addresses of the excess sectors. The value of the SHA-1 is presented in the *SHA-1* column. The log files for **sechash** are named **PRELOG.TXT** and **POSTLOG.TXT**.

Table 4. SHA-1 Values of Excess Partition Sectors Before and After Running dd

Case	Step	Total	From LBA	To LBA	SHA-1
lx-10	PRE	96390	1237005	1333394	91901BA575B3D07CC7A3184A604F62C1B24DAEA4
lx-10	POST	96390	1237005	1333394	91901BA575B3D07CC7A3184A604F62C1B24DAEA4
lx-23	PRE	208782	6152958	6361739	8D15AD9FDB593704BDEDE0BD28E76DC57B37EEF8
lx-23	POST	208782	6152958	6361739	8D15AD9FDB593704BDEDE0BD28E76DC57B37EEF8
lx-38	PRE	96390	1237005	1333394	96B50159080B8C6A2505BC5FC528892A561D4709
lx-38	POST	96390	1237005	1333394	96B50159080B8C6A2505BC5FC528892A561D4709

4. Test Results Report Key

A summary of the actual test results is presented in this report. The following table presents a description and example of each section of the test report summary.

Heading	Description	Example
Product Name:	Name and version of software tested	dd (GNU fileutils) 4.0.36
Test ID:	Test case ID from *Disk Imaging Tool Specification, version 3.1.6*	DI(Linux)-01
Case Summary:	Test case summary from *Disk Imaging Tool Specification, version 3.1.6*	Copy a LINUX IDE source disk to a LINUX IDE destination disk where the source disk is smaller than the destination
Tester Name:	Name or initials of person executing test procedure	JRL
Test Date	Time and date that test was started	Mon Aug 13 16:17:10 2001
PC:	Name of computer where tool under test was executed	Cadfael
Disks:	Description of the hard and removable disks used in the test as the source, destination, and boot/media including the identifiers used by the operating system. For parts of the test procedure that are executed under DOS, the BIOS assigned drive number is in hexadecimal. The physical device label and Linux device name are also included.	Source 80:F5:hda Destination 81:AA:hdb Media/Other CD:sda Source: DOS Drive 80 Physical Label F5 Linux device hda Destination: DOS Drive 81 Physical Label AA Linux device hdb Boot/Image media: Physical Label CD F5 is an IBM-DTLA-307020 40188960 Sectors, IDE AA is a Maxtor53073H4 60030432 Sectors, IDE CD is a SEAGATE ST336705LC 71687370 Sectors, SCSI Jaz disk with Support software, scripts DOS Boot floppy
Test Software:	List of the support software with versions that was used for testing	diskcmp.cpp Version 2.8 Created 07/10/01 at 11:22:13 diskhash.cpp Version 2.8 Created 07/10/01 at 11:22:14 diskwipe.cpp Version 2.8 Created 07/10/01 at 11:22:14 partab.cpp Version 2.7 Created 07/20/01 at 09:01:49 zbios.cpp Version 2.9 created 07/10/01 at 11:19:55 zbios.h Version 2.6 Created 07/10/01 at 11:19:56
Scripts:	Listing of the pre-test, tool execution, and post-test scripts used for the tests. The format of the pre-test script is: Id computer person source destination boot/media The format for the tool execution script is: Run source destination function casenumber The format for the post-test is: ID computer person source destination	pre-01 Cadfael JRL F5 AA CD run_dd hda hdb copy LX-01 post-01 Cadfael JRL F5 AA
Source disk setup:	Documentation of the creation of the source disk including the disk label, the computer used for setup, person creating the source, time and date, partitions and operating systems installed, diskwipe command, disk hash after created and the partition table for the source disk	Dual boot Linux/Windows Me with EXT2 & Fat16 Disk: F5 Host: Cadfael Operator: JRL OS: WindowsMe/Linux Date: Sat Aug 11 11:13:43 2001 X:\SS\DISKWIPE.EXE F5_SRC Cadfael 80 F5 /src pqmagic /cmd=fat-src.txt X:\SS\DISKHASH.EXE F5_SRC Cadfael 80 /before Disk hash = 83A0002816BBF089F8BE33C41C92C3B5A0F42A54

		N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 001236942 0000/001/01 0076/254/63 Boot 06 Fat16 2 X 002249100 007181055 0140/000/01 0586/254/63 05 extended 3 S 000000063 000208782 0140/001/01 0152/254/63 83 Linux 4 x 000208845 000144585 0153/000/01 0161/254/63 05 extended 5 S 000000063 000144522 0153/001/01 0161/254/63 06 Fat16 6 x 004450005 000192780 0417/000/01 0428/254/63 05 extended 7 S 000000063 000192717 0417/001/01 0428/254/63 16 other 9 P 009430155 006152895 0587/000/01 0969/254/63 83 Linux 10 P 039760875 000417690 1023/000/01 1023/254/63 82 Linux swap
Destination Setup:	Documentation of the creation of the destination disk including the diskwipe command and a listing of the partition table if required for the test	DISKWIPE.EXE LX-01 Cadfael 81 AA /noask /dst /new_log /comment JRL
Execute:	Documentation of each command executed during the test	PARTAB.EXE LX-01 Cadfael 80 /all /new_log /comment JRL(F5) PARTAB.EXE LX-01 Cadfael 81 /all /new_log /comment JRL(AA) dd if=/dev/hda of=/dev/hdb bs=1b DISKCMP.EXE LX-01 Cadfael 80 F5 81 AA /new_log /comment JRL DISKHASH.EXE LX-01 Cadfael 80 /comment JRL (F5) /new_log /after
Log files & location:	Name and location of the log files in the test file archive	test-archive/dd7.1/2001/LX-01
Expected Results:	Expected results listed in *Disk Imaging Tool Specification*, Version 3.1.6	src compares qualified equal to dst Source disk unchanged
Actual Results:	Summary of test case results	src compares qualified equal to dst Source disk is unchanged
Log File Highlights:	Selected entries from three of the test case log files, the comparison of source and destination, the hash of the source after test, and any relevant messages logged during the test run	Sectors Compared 40188960 Sectors Differ 0 Diffs range Source (40188960) has 19841472 fewer sectors than destination (60030432) Zero fill: 0 Src Byte fill (F5): 0 Dst Byte fill (AA): 19841472 Other fill: 0 Other no fill: 0 Hash after test: 83A0002816BBF089F8BE33C41C92C3B5A0F42A54
Analysis:	Whether the expected results were achieved	Expected results achieved

5. Interpretation of Test Results

There are three main items of interest for examining the results for a test case:
- Is the source disk unchanged?
- Have the correct number of sectors been copied accurately?
- Has the tool alerted the user to a destination smaller than the source?

5.1 Source Disk

The integrity of the source disk is checked by comparing the hash of the source disk computed before any tests are run with the hash computed after the tool is used. If the two hash values are not the same, then there has been a change to the source disk by the tool. The reference hash is recorded in the **Source disk setup** box and the hash computed after the tool is run is recorded in the **Log file highlights** box.

5.2 Number of sectors copied

The number of sectors that should be copied is the minimum of the number of source sectors and the number of destination sectors. This value can be found on the *sectors compared* line of the **Log file highlights** box. If the next line of the **Log file highlights** box, *sectors differ*, is not zero, then the tool did not correctly copy all the sectors that should have been copied. The *logical block addresses* of the first few sectors not copied correctly are listed on the *diffs range* line.

The number of sectors in the source and destination can be determined as follows: If the tool operated on an entire disk, then the size of the source and destination can be found in the **Disks** box. If the tool operated on a single partition then the partition sizes are presented in the *partition tables* in the **Source disk setup** box and the **Destination disk setup** box. The partitions used in the test are identified in the **/select** option parameters to the **PARTCMP** program execution presented in the **Execute** box. The **/select** option is followed by two parameters, the partition numbers of the source and destination partitions.

5.3 Messages

The tool should issue a message indicating that the destination is smaller than the source for any test case defined for a smaller destination. Such a test case would have the phrase *source ... larger than the destination* in the **Case summary** box. A message indicating *no space left on device* should be present in the **Log file highlights** box.

6. Test Results Summaries

Product Name:	dd (GNU fileutils) 4.0.36
Test ID:	**DI(Linux)-01**
Case Summary:	Copy a LINUX IDE source disk to a LINUX IDE destination disk where the source disk is smaller than the destination
Tester Name:	JRL
Test Date:	Mon Aug 13 16:17:10 2001
PC:	Cadfael
Disks:	Source: DOS Drive 80 Physical Label F5 Linux device hda Destination: DOS Drive 81 Physical Label AA Linux device hdb Boot/Image media: Physical Label CD F5 is an IBM-DTLA-307020 40188960 Sectors, IDE AA is a Maxtor53073H4 60030432 Sectors, IDE CD is a SEAGATE ST336705LC 71687370 Sectors, SCSI Jaz disk with Support software, scripts PC DOS 6.3 Boot floppy
Test Software:	diskcmp.cpp Version 2.8 Created 07/10/01 at 11:22:13 diskhash.cpp Version 2.8 Created 07/10/01 at 11:22:14 diskwipe.cpp Version 2.8 Created 07/10/01 at 11:22:14 partab.cpp Version 2.7 Created 07/20/01 at 09:01:49 zbios.cpp Version 2.9 created 07/10/01 at 11:19:55 zbios.h Version 2.6 Created 07/10/01 at 11:19:56
Scripts:	pre-01 Cadfael JRL F5 AA CD run_dd hda hdb copy LX-01 post-01 Cadfael JRL F5 AA
Source disk setup:	Dual boot Linux/Windows Me with EXT2 & Fat16 Disk: F5 Host: Cadfael Operator: JRL OS: WindowsMe/Linux Date: Sat Aug 11 11:13:43 2001 DISKWIPE.EXE F5_SRC Cadfael 80 F5 /src pqmagic /cmd=fat-src.txt Load Operating System to Source disk DISKHASH.EXE F5_SRC Cadfael 80 /before Disk hash = 83A0002816BBF089F8BE33C41C92C3B5A0F42A54 N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 001236942 0000/001/01 0076/254/63 Boot 06 Fat16 2 X 002249100 007181055 0140/000/01 0586/254/63 05 extended 3 S 000000063 000208782 0140/001/01 0152/254/63 83 Linux 4 x 000208845 000144585 0153/000/01 0161/254/63 05 extended 5 S 000000063 000144522 0153/001/01 0161/254/63 06 Fat16 6 x 004450005 000192780 0417/000/01 0428/254/63 05 extended 7 S 000000063 000192717 0417/001/01 0428/254/63 16 other 9 P 009430155 006152895 0587/000/01 0969/254/63 83 Linux 10 P 039760875 000417690 1023/000/01 1023/254/63 82 Linux swap
Destination Setup:	DISKWIPE.EXE LX-01 Cadfael 81 AA /noask /dst /new_log /comment JRL
Execute:	PARTAB.EXE LX-01 Cadfael 80 /all /new_log /comment JRL(F5) PARTAB.EXE LX-01 Cadfael 81 /all /new_log /comment JRL(AA) dd if=/dev/hda of=/dev/hdb bs=1b DISKCMP.EXE LX-01 Cadfael 80 F5 81 AA /new_log /comment JRL DISKHASH.EXE LX-01 Cadfael 80 /comment JRL (F5) /new_log /after
Log files & location:	test-archive/dd/gnu-4.0.36/LX-01
Expected Results:	src compares qualified equal to dst

	Source disk unchanged
Actual Results:	src compares qualified equal to dst Source disk is unchanged
Log File Highlights:	Sectors Compared 40188960 Sectors Differ 0 Diffs range Source (40188960) has 19841472 fewer sectors than destination (60030432) Zero fill: 0 Src Byte fill (F5): 0 Dst Byte fill (AA): 19841472 Other fill: 0 Other no fill: 0 Hash after test: 83A0002816BBF089F8BE33C41C92C3B5A0F42A54
Analysis:	Expected results achieved

Product Name:	dd (GNU fileutils) 4.0.36
Test ID:	**DI(Linux)-02**
Case Summary:	Copy a LINUX IDE source disk to a LINUX IDE destination disk where the source disk is the same size as the destination
Tester Name:	JRL
Test Date:	Thu Aug 16 10:14:59 2001
PC:	Cadfael
Disks:	Source: DOS Drive 80 Physical Label F5 Linux device hda Destination: DOS Drive 81 Physical Label F7 Linux device hdb Boot/Image media: Physical Label CD F5 is an IBM-DTLA-307020 40188960 Sectors, IDE F7 is an IBM-DTLA-307020 40188960 Sectors, IDE CD is a SEAGATE ST336705LC 71687370 Sectors, SCSI Jaz disk with Support software, scripts PC DOS 6.3 Boot floppy
Test Software:	diskcmp.cpp Version 2.8 Created 07/10/01 at 11:22:13 diskhash.cpp Version 2.8 Created 07/10/01 at 11:22:14 diskwipe.cpp Version 2.8 Created 07/10/01 at 11:22:14 partab.cpp Version 2.7 Created 07/20/01 at 09:01:49 zbios.cpp Version 2.9 created 07/10/01 at 11:19:55 zbios.h Version 2.6 Created 07/10/01 at 11:19:56
Scripts:	pre-02 Cadfael JRL F5 F7 CD run_dd hda hdb copy LX-02 post-02 Cadfael JRL F5 F7
Source disk setup:	Dual boot Linux/Windows Me with EXT2 & Fat16 Disk: F5 Host: Cadfael Operator: JRL OS: WindowsMe/Linux Date: Sat Aug 11 11:13:43 2001 DISKWIPE.EXE F5_SRC Cadfael 80 F5 /src pqmagic /cmd=fat-src.txt Load Operating System to Source disk DISKHASH.EXE F5_SRC Cadfael 80 /before Disk hash = 83A0002816BBF089F8BE33C41C92C3B5A0F42A54 N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 001236942 0000/001/01 0076/254/63 Boot 06 Fat16 2 X 002249100 007181055 0140/000/01 0586/254/63 05 extended 3 S 000000063 000208782 0140/001/01 0152/254/63 83 Linux 4 x 000208845 000144585 0153/000/01 0161/254/63 05 extended 5 S 000000063 000144522 0153/001/01 0161/254/63 06 Fat16 6 x 004450005 000192780 0417/000/01 0428/254/63 05 extended 7 S 000000063 000192717 0417/001/01 0428/254/63 16 other 9 P 009430155 006152895 0587/000/01 0969/254/63 83 Linux 10 P 039760875 000417690 1023/000/01 1023/254/63 82 Linux swap

Destination Setup:	DISKWIPE.EXE LX-02 Cadfael 81 F7 /noask /dst /new_log /comment JRL
Execute:	PARTAB.EXE LX-02 Cadfael 80 /all /new_log /comment JRL(F5) PARTAB.EXE LX-02 Cadfael 81 /all /new_log /comment JRL(F7) dd if=/dev/hda of=/dev/hdb bs=1b DISKCMP.EXE LX-02 Cadfael 80 F5 81 F7 /new_log /comment JRL DISKHASH.EXE LX-02 Cadfael 80 /comment JRL (F5) /new_log /after
Log files & location:	test-archive/dd/gnu-4.0.36/LX-02
Expected Results:	src compares equal to dst Source disk unchanged
Actual Results:	src compares equal to dst Source disk is unchanged
Log File Highlights:	Sectors Compared 40188960 Sectors Differ 0 Diffs range Hash after test: 83A0002816BBF089F8BE33C41C92C3B5A0F42A54
Analysis:	Expected results achieved

Product Name:	dd (GNU fileutils) 4.0.36
Test ID:	**DI(Linux)-03**
Case Summary:	Copy a LINUX IDE source disk to a LINUX IDE destination disk where the source disk is larger than the destination
Tester Name:	JRL
Test Date:	Thu Aug 16 18:20:35 2001
PC:	Cadfael
Disks:	Source: DOS Drive 80 Physical Label F5 Linux device hda Destination: DOS Drive 81 Physical Label A6 Linux device hdb Boot/Image media: Physical Label CD F5 is an IBM-DTLA-307020 40188960 Sectors, IDE A6 is a WDC WD200BB-00AUA1 39102336 Sectors, IDE CD is a SEAGATE ST336705LC 71687370 Sectors, SCSI Jaz disk with Support software, scripts PC DOS 6.3 Boot floppy
Test Software:	diskcmp.cpp Version 2.8 Created 07/10/01 at 11:22:13 diskhash.cpp Version 2.8 Created 07/10/01 at 11:22:14 diskwipe.cpp Version 2.8 Created 07/10/01 at 11:22:14 partab.cpp Version 2.7 Created 07/20/01 at 09:01:49 zbios.cpp Version 2.9 created 07/10/01 at 11:19:55 zbios.h Version 2.6 Created 07/10/01 at 11:19:56
Scripts:	pre-03 Cadfael JRL F5 A6 CD run_dd hda hdb copy LX-03 post-03 Cadfael JRL F5 A6
Source disk setup:	Dual boot Linux/Windows Me with EXT2 & Fat16 Disk: F5 Host: Cadfael Operator: JRL OS: WindowsMe/Linux Date: Sat Aug 11 11:13:43 2001 DISKWIPE.EXE F5_SRC Cadfael 80 F5 /src pqmagic /cmd=fat-src.txt Load Operating System to Source disk DISKHASH.EXE F5_SRC Cadfael 80 /before Disk hash = 83A0002816BBF089F8BE33C41C92C3B5A0F42A54 N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 001236942 0000/001/01 0076/254/63 Boot 06 Fat16 2 X 002249100 007181055 0140/000/01 0586/254/63 05 extended 3 S 000000063 000208782 0140/001/01 0152/254/63 83 Linux

```
                   4 x 000208845 000144585 0153/000/01 0161/254/63    05 extended
                   5 S 000000063 000144522 0153/001/01 0161/254/63    06 Fat16
                   6 x 004450005 000192780 0417/000/01 0428/254/63    05 extended
                   7 S 000000063 000192717 0417/001/01 0428/254/63    16 other
                   9 P 009430155 006152895 0587/000/01 0969/254/63    83 Linux
                  10 P 039760875 000417690 1023/000/01 1023/254/63    82 Linux swap
```

Destination Setup:	DISKWIPE.EXE LX-03 Cadfael 81 A6 /noask /dst /new_log /comment JRL
Execute:	PARTAB.EXE LX-03 Cadfael 80 /all /new_log /comment JRL(F5) PARTAB.EXE LX-03 Cadfael 81 /all /new_log /comment JRL(A6) dd if=/dev/hda of=/dev/hdb bs=1b DISKCMP.EXE LX-03 Cadfael 80 F5 81 A6 /new_log /comment JRL DISKHASH.EXE LX-03 Cadfael 80 /comment JRL (F5) /new_log /after
Log files & location:	test-archive/dd/gnu-4.0.36/LX-03
Expected Results:	src compares qualified equal to dst, src is truncated on dst truncation is logged Source disk unchanged
Actual Results:	src compares qualified equal to dst, src is truncated on dst truncation is logged Source disk is unchanged
Log File Highlights:	Sectors Compared 39102336 Sectors Differ 0 Diffs range Source (40188960) has 1086624 more sectors than destination (39102336) Hash after test: 83A0002816BBF089F8BE33C41C92C3B5A0F42A54 dd: writing /dev/hdb: No space left on device
Analysis:	Expected results achieved

Product Name:	dd (GNU fileutils) 4.0.36
Test ID:	**DI(Linux)-04**
Case Summary:	Copy a LINUX IDE source disk to a LINUX IDE destination disk and the source contains a FAT16 partition where the source disk is smaller than the destination
Tester Name:	JRL
Test Date:	Sun Aug 12 15:54:49 2001
PC:	Cadfael
Disks:	Source: DOS Drive 80 Physical Label F5 Linux device hda1 Destination: DOS Drive 81 Physical Label A6 Linux device hdb1 Boot/Image media: Physical Label CD F5 is an IBM-DTLA-307020 40188960 Sectors, IDE A6 is a WDC WD200BB-00AUA1 39102336 Sectors, IDE CD is a SEAGATE ST336705LC 71687370 Sectors, SCSI Jaz disk with Support software, scripts PC DOS 6.3 Boot floppy
Test Software:	diskhash.cpp Version 2.8 Created 07/10/01 at 11:22:14 diskwipe.cpp Version 2.8 Created 07/10/01 at 11:22:14 partab.cpp Version 2.7 Created 07/20/01 at 09:01:49 partcmp.cpp Version 2.5 Created 07/11/01 at 22:02:11 zbios.cpp Version 2.9 created 07/10/01 at 11:19:55 zbios.h Version 2.6 Created 07/10/01 at 11:19:56
Scripts:	pre-04 Cadfael JRL F5 A6 CD run_dd hda1 hdb1 copy LX-04 post-04 Cadfael JRL F5 A6
Source disk setup:	Dual boot Linux/Windows Me with EXT2 & Fat16 Disk: F5 Host: Cadfael Operator: JRL OS: WindowsMe/Linux Date: Sat Aug 11 11:13:43 2001

	DISKWIPE.EXE F5_SRC Cadfael 80 F5 /src pqmagic /cmd=fat-src.txt Load Operating System to Source disk DISKHASH.EXE F5_SRC Cadfael 80 /before Disk hash = 83A0002816BBF089F8BE33C41C92C3B5A0F42A54 N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 001236942 0000/001/01 0076/254/63 Boot 06 Fat16 2 X 002249100 007181055 0140/000/01 0586/254/63 05 extended 3 S 000000063 000208782 0140/001/01 0152/254/63 83 Linux 4 x 000208845 000144585 0153/000/01 0161/254/63 05 extended 5 S 000000063 000144522 0153/001/01 0161/254/63 06 Fat16 6 x 004450005 000192780 0417/000/01 0428/254/63 05 extended 7 S 000000063 000192717 0417/001/01 0428/254/63 16 other 9 P 009430155 006152895 0587/000/01 0969/254/63 83 Linux 10 P 039760875 000417690 1023/000/01 1023/254/63 82 Linux swap
Destination Setup:	DISKWIPE.EXE LX-04 Cadfael 81 A6 /noask /dst /new_log /comment JRL X:\PM\PQMAGIC /cmd=X:\PM\F16-SS-2.txt N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 001333332 0000/001/01 0082/254/63 06 Fat16
Execute:	PARTAB.EXE LX-04 Cadfael 80 /all /new_log /comment JRL(F5) PARTAB.EXE LX-04 Cadfael 81 /all /new_log /comment JRL(A6) dd if=/dev/hda1 of=/dev/hdb1 bs=1b PARTCMP.EXE LX-04 Cadfael 80 F5 81 A6 /new_log /comment JRL /select 1 1 DISKHASH.EXE LX-04 Cadfael 80 /comment JRL (F5) /new_log /after
Log files & location:	test-archive/dd/gnu-4.0.36/LX-04
Expected Results:	src compares qualified equal to dst Source disk unchanged
Actual Results:	src compares qualified equal to dst Source disk is unchanged
Log File Highlights:	Sectors Compared 1236942 Sectors Differ 0 Diffs range: Source (1236942) has 96390 fewer sectors than destination (1333332) Zero fill: 0 Src Byte fill (F5): 0 Dst Byte fill (A6): 96390 Other fill: 0 Other no fill: 0 Hash after test: 83A0002816BBF089F8BE33C41C92C3B5A0F42A54
Analysis:	Expected results achieved

Product Name:	dd (GNU fileutils) 4.0.36
Test ID:	**DI(Linux)-05**
Case Summary:	Copy a LINUX IDE source disk to a LINUX IDE destination disk and the source contains a FAT32 partition where the source disk is the same size as the destination
Tester Name:	JRL
Test Date:	Mon Oct 22 14:29:17 2001
PC:	Wimsey
Disks:	Source: DOS Drive 80 Physical Label F6 Linux device hda1 Destination: DOS Drive 81 Physical Label A6 Linux device hdb1 Boot/Image media: Physical Label CD F6 is an IBM-DTLA-307020 40188960 Sectors, IDE A6 is a WDC WD200BB-00AUA1 39102336 Sectors, IDE CD is a SEAGATE ST336705LC 71687370 Sectors, SCSI Jaz disk with Support software, scripts PC DOS 6.3 Boot floppy

Test Software:	diskhash.cpp Version 2.8 Created 07/10/01 at 11:22:14 diskwipe.cpp Version 2.8 Created 07/10/01 at 11:22:14 partab.cpp Version 2.7 Created 07/20/01 at 09:01:49 partcmp.cpp Version 2.5 Created 07/11/01 at 22:02:11 zbios.cpp Version 2.9 created 07/10/01 at 11:19:55 zbios.h Version 2.6 Created 07/10/01 at 11:19:56
Scripts:	pre-05 Wimsey JRL F6 A6 CD run_dd hda1 hdb1 copy LX-05 post-05 Wimsey JRL F6 A6
Source disk setup:	Windows 2000 with NTFS & Fat32 Disk: F6 Host: Wimsey Operator: JRL OS: Windows 2000 Date: Sat Jul 21 15:53:12 2001 DISKWIPE.EXE F6_SRC Wimsey 80 F6 /src /new_log /noask /comment Windows 2000/NT source pqmagic /cmd=nt-src.txt Load Operating System to Source disk DISKHASH.EXE LX-27 Morse 80 /before Disk hash = 8034683D5D55BA51409AC7B5CB0845CA2CF6B235 N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 006152832 0000/001/01 0382/254/63 Boot 0B Fat32 2 X 008193150 031985415 0510/000/01 1023/254/63 0F extended 4 x 002056320 001237005 0638/000/01 0714/254/63 05 extended 5 S 000000063 001236942 0638/001/01 0714/254/63 07 NTFS 6 x 005349645 001638630 0843/000/01 0944/254/63 05 extended 7 S 000000063 001638567 0843/001/01 0944/254/63 17 other 8 x 030748410 001237005 1023/000/01 1023/254/63 05 extended 9 S 000000063 001236942 1023/001/01 1023/254/63 1B other
Destination Setup:	DISKWIPE.EXE LX-05 Wimsey 80 A6 /noask /dst /new_log /comment JRL X:\PM\PQMAGIC /cmd=X:\PM\F32-ES-2.txt N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 006152832 0000/001/01 0382/254/63 0B Fat32
Execute:	PARTAB.EXE LX-05 Wimsey 80 /all /new_log /comment JRL(F6) PARTAB.EXE LX-05 Wimsey 81 /all /new_log /comment JRL(A6) dd if=/dev/hda1 of=/dev/hdb1 bs=1b PARTCMP.EXE LX-05 Wimsey 80 F6 81 A6 /new_log /comment JRL /select 1 1 DISKHASH.EXE LX-05 Wimsey 80 /comment JRL (F6) /new_log /after
Log files & location:	test-archive/dd/gnu-4.0.36/LX-05
Expected Results:	src compares equal to dst Source disk unchanged
Actual Results:	src compares equal to dst Source disk is unchanged
Log File Highlights:	Sectors Compared 6152832 Sectors Differ 0 Diffs range: Hash after test: 8034683D5D55BA51409AC7B5CB0845CA2CF6B235
Analysis:	Expected results achieved

Product Name:	dd (GNU fileutils) 4.0.36
Test ID:	**DI(Linux)-06**
Case Summary:	Copy a LINUX IDE source disk to a LINUX IDE destination disk and the source contains a LINUX partition where the source disk is larger than the destination
Tester Name:	JRL
Test Date:	Thu Aug 30 18:06:47 2001

PC:	Cadfael
Disks:	Source: DOS Drive 80 Physical Label F5 Linux device hda3 Destination: DOS Drive 81 Physical Label A6 Linux device hdb1 Boot/Image media: Physical Label CD F5 is an IBM-DTLA-307020 40188960 Sectors, IDE A6 is a WDC WD200BB-00AUA1 39102336 Sectors, IDE CD is a SEAGATE ST336705LC 71687370 Sectors, SCSI Jaz disk with Support software, scripts PC DOS 6.3 Boot floppy
Test Software:	diskhash.cpp Version 2.8 Created 07/10/01 at 11:22:14 diskwipe.cpp Version 2.8 Created 07/10/01 at 11:22:14 partab.cpp Version 2.7 Created 07/20/01 at 09:01:49 partcmp.cpp Version 2.5 Created 07/11/01 at 22:02:11 seccmp.cpp Version 1.4 Created 07/10/01 at 11:22:15 zbios.cpp Version 2.9 created 07/10/01 at 11:19:55 zbios.h Version 2.6 Created 07/10/01 at 11:19:56
Scripts:	pre-06 Cadfael JRL F5 A6 CD run_dd hda3 hdb1 copy LX-06 post-06 Cadfael JRL F5 A6
Source disk setup:	Dual boot Linux/Windows Me with EXT2 & Fat16 Disk: F5 Host: Cadfael Operator: JRL OS: WindowsMe/Linux Date: Sat Aug 11 11:13:43 2001 DISKWIPE.EXE F5_SRC Cadfael 80 F5 /src pqmagic /cmd=fat-src.txt Load Operating System to Source disk DISKHASH.EXE F5_SRC Cadfael 80 /before Disk hash = 83A0002816BBF089F8BE33C41C92C3B5A0F42A54 N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 001236942 0000/001/01 0076/254/63 Boot 06 Fat16 2 X 002249100 007181055 0140/000/01 0586/254/63 05 extended 3 S 000000063 000208782 0140/001/01 0152/254/63 83 Linux 4 x 000208845 000144585 0153/000/01 0161/254/63 05 extended 5 S 000000063 000144522 0153/001/01 0161/254/63 06 Fat16 6 x 004450005 000192780 0417/000/01 0428/254/63 05 extended 7 S 000000063 000192717 0417/001/01 0428/254/63 16 other 9 P 009430155 006152895 0587/000/01 0969/254/63 83 Linux 10 P 039760875 000417690 1023/000/01 1023/254/63 82 Linux swap
Destination Setup:	DISKWIPE.EXE LX-06 Cadfael 81 A6 /noask /dst /new_log /comment JRL X:\PM\PQMAGIC /cmd=X:\PM\LX-BS-2.txt N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 005943987 0000/001/01 0369/254/63 83 Linux
Execute:	PARTAB.EXE LX-06 Cadfael 80 /all /new_log /comment JRL(F5) PARTAB.EXE LX-06 Cadfael 81 /all /new_log /comment JRL(A6) dd if=/dev/hda3 of=/dev/hdb1 bs=1b PARTCMP.EXE LX-06 Cadfael 80 F5 81 A6 /new_log /comment JRL /select 9 1 DISKHASH.EXE LX-06 Cadfael 80 /comment JRL (F5) /new_log /after
Log files & location:	test-archive/dd/gnu-4.0.36/LX-06
Expected Results:	src compares qualified equal to dst, src is truncated on dst truncation is logged Source disk unchanged
Actual Results:	src compares qualified equal to dst, src is truncated on dst truncation is logged except for 1 sector not copied to destination Source disk is unchanged
Log File Highlights:	Sectors Compared 5943987 Sectors Differ 1

	Diffs range: 5943986 Source (6152895) has 208908 more sectors than destination (5943987) Hash after test: 83A0002816BBF089F8BE33C41C92C3B5A0F42A54 dd: writing /dev/hdb1: No space left on device
Analysis:	Expected results not achieved.

Product Name:	dd (GNU fileutils) 4.0.36
Test ID:	**DI(Linux)-07**
Case Summary:	Copy a LINUX SCSI source disk to a LINUX SCSI destination disk where the source disk is smaller than the destination
Tester Name:	JRL
Test Date:	Sun Aug 12 14:47:25 2001
PC:	Rumpole
Disks:	Source: DOS Drive 80 Physical Label E3 Linux device sda Destination: DOS Drive 81 Physical Label E6 Linux device sdb Boot/Image media: Physical Label AD E3 is a QUANTUM ATLAS10K2-TY092J 17938985 Sectors, SCSI E6 is a SEAGATE ST318404LC 35843670 Sectors, SCSI AD is a Maxtor53073H4 60030432 Sectors, IDE Jaz disk with Support software, scripts PC DOS 6.3 Boot floppy
Test Software:	diskcmp.cpp Version 2.8 Created 07/10/01 at 11:22:13 diskhash.cpp Version 2.8 Created 07/10/01 at 11:22:14 diskwipe.cpp Version 2.8 Created 07/10/01 at 11:22:14 partab.cpp Version 2.7 Created 07/20/01 at 09:01:49 zbios.cpp Version 2.9 created 07/10/01 at 11:19:55 zbios.h Version 2.6 Created 07/10/01 at 11:19:56
Scripts:	pre-07 Rumpole JRL E3 E6 AD run_dd sda sdb copy LX-07 post-07 Rumpole JRL E3 E6
Source disk setup:	Dual boot Linux/Windows Me with EXT2 & Fat16 Disk: E3 Host: Cadfael Operator: JRL OS: Linux Red Hat 7.1/Windows Me Date: Sat Jul 21 16:17:29 2001 DISKWIPE.EXE E3_SRC Rumpole 80 E3 /src /new_log pqmagic /cmd=fat-src.txt Load Operating System to Source disk DISKHASH.EXE E3_SRC Rumpole 80 /before Disk hash = 0F9DACDA6C63D197C048782003D324108CEC7AB0 N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 001236942 0000/001/01 0076/254/63 Boot 06 Fat16 2 X 002249100 007181055 0140/000/01 0586/254/63 05 extended 3 S 000000063 000208782 0140/001/01 0152/254/63 83 Linux 4 x 000208845 000144585 0153/000/01 0161/254/63 05 extended 5 S 000000063 000144522 0153/001/01 0161/254/63 06 Fat16 6 x 004450005 000192780 0417/000/01 0428/254/63 05 extended 7 S 000000063 000192717 0417/001/01 0428/254/63 16 other 9 P 009430155 006152895 0587/000/01 0969/254/63 83 Linux 10 P 017510850 000417690 1023/000/01 1023/254/63 82 Linux swap
Destination Setup:	DISKWIPE.EXE LX-07 Rumpole 81 E6 /noask /dst /new_log /comment JRL
Execute:	PARTAB.EXE LX-07 Rumpole 80 /all /new_log /comment JRL(E3) PARTAB.EXE LX-07 Rumpole 81 /all /new_log /comment JRL(E6) dd if=/dev/sda of=/dev/sdb bs=1b DISKCMP.EXE LX-07 Rumpole 80 E3 81 E6 /new_log /comment JRL DISKHASH.EXE LX-07 Rumpole 80 /comment JRL (E3) /new_log /after
Log files & location:	test-archive/dd/gnu-4.0.36/LX-07

Expected Results:	src compares qualified equal to dst Source disk unchanged
Actual Results:	src compares qualified equal to dst except for 1 sector not copied to destination Source disk is unchanged
Log File Highlights:	Sectors Compared 17938985 Sectors Differ 1 Diffs range 17938984 Source (17938985) has 17904685 fewer sectors than destination (35843670) Zero fill: 0 Src Byte fill (E3): 0 Dst Byte fill (E6): 17904685 Other fill: 0 Other no fill: 0 Hash after test: 0F9DACDA6C63D197C048782003D324108CEC7AB0
Analysis:	Expected results not achieved.

Product Name:	dd (GNU fileutils) 4.0.36
Test ID:	**DI(Linux)-08**
Case Summary:	Copy a LINUX SCSI source disk to a LINUX SCSI destination disk where the source disk is the same size as the destination
Tester Name:	JRL
Test Date:	Fri Aug 10 10:22:42 2001
PC:	Rumpole
Disks:	Source: DOS Drive 80 Physical Label E3 Linux device sda Destination: DOS Drive 81 Physical Label E0 Linux device sdb Boot/Image media: Physical Label AD E3 is a QUANTUM ATLAS10K2-TY092J 17938985 Sectors, SCSI E0 is a QUANTUM ATLAS10K2-TY092J 17938985 Sectors, SCSI AD is a Maxtor53073H4 60030432 Sectors, IDE Jaz disk with Support software, scripts PC DOS 6.3 Boot floppy
Test Software:	diskcmp.cpp Version 2.8 Created 07/10/01 at 11:22:13 diskhash.cpp Version 2.8 Created 07/10/01 at 11:22:14 diskwipe.cpp Version 2.8 Created 07/10/01 at 11:22:14 partab.cpp Version 2.7 Created 07/20/01 at 09:01:49 zbios.cpp Version 2.9 created 07/10/01 at 11:19:55 zbios.h Version 2.6 Created 07/10/01 at 11:19:56
Scripts:	pre-08 Rumpole JRL E3 E0 AD run_dd sda sdb copy LX-08 post-08 Rumpole JRL E3 E0
Source disk setup:	Dual boot Linux/Windows Me with EXT2 & Fat16 Disk: E3 Host: Cadfael Operator: JRL OS: Linux Red Hat 7.1/Windows Me Date: Sat Jul 21 16:17:29 2001 DISKWIPE.EXE E3_SRC Rumpole 80 E3 /src /new_log pqmagic /cmd=fat-src.txt Load Operating System to Source disk DISKHASH.EXE E3_SRC Rumpole 80 /before Disk hash = 0F9DACDA6C63D197C048782003D324108CEC7AB0 N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 001236942 0000/001/01 0076/254/63 Boot 06 Fat16 2 X 002249100 007181055 0140/000/01 0586/254/63 05 extended 3 S 000000063 000208782 0140/001/01 0152/254/63 83 Linux 4 x 000208845 000144585 0153/000/01 0161/254/63 05 extended 5 S 000000063 000144522 0153/001/01 0161/254/63 06 Fat16 6 x 004450005 000192780 0417/000/01 0428/254/63 05 extended 7 S 000000063 000192717 0417/001/01 0428/254/63 16 other

	9 P 009430155 006152895 0587/000/01 0969/254/63 83 Linux 10 P 017510850 000417690 1023/000/01 1023/254/63 82 Linux swap
Destination Setup:	DISKWIPE.EXE LX-08 Rumpole 81 E0 /noask /dst /new_log /comment JRL
Execute:	PARTAB.EXE LX-08 Rumpole 80 /all /new_log /comment JRL(E3) PARTAB.EXE LX-08 Rumpole 81 /all /new_log /comment JRL(E0) dd if=/dev/sda of=/dev/sdb bs=1b DISKCMP.EXE LX-08 Rumpole 80 E3 81 E0 /new_log /comment JRL DISKHASH.EXE LX-08 Rumpole 80 /comment JRL (E3) /new_log /after
Log files & location:	test-archive/dd/gnu-4.0.36/LX-08
Expected Results:	src compares equal to dst Source disk unchanged
Actual Results:	src compares equal to dst except for 1 sector not copied to destination Source disk is unchanged
Log File Highlights:	Sectors Compared 17938985 Sectors Differ 1 Diffs range 17938984 Hash after test: 0F9DACDA6C63D197C048782003D324108CEC7AB0
Analysis:	Expected results not achieved.

Product Name:	dd (GNU fileutils) 4.0.36
Test ID:	**DI(Linux)-09**
Case Summary:	Copy a LINUX SCSI source disk to a LINUX SCSI destination disk where the source disk is larger than the destination
Tester Name:	JRL
Test Date:	Fri Aug 10 10:26:19 2001
PC:	Wimsey
Disks:	Source: DOS Drive 80 Physical Label E4 Linux device sda Destination: DOS Drive 81 Physical Label EA Linux device sdb Boot/Image media: Physical Label AE E4 is a QUANTUM ATLAS10K2-TY092J 17938985 Sectors, SCSI EA is a SEAGATE ST39204LC 17921835 Sectors, SCSI AE is a Maxtor53073H4 60030432 Sectors, IDE Jaz disk with Support software, scripts PC DOS 6.3 Boot floppy
Test Software:	diskcmp.cpp Version 2.8 Created 07/10/01 at 11:22:13 diskhash.cpp Version 2.8 Created 07/10/01 at 11:22:14 diskwipe.cpp Version 2.8 Created 07/10/01 at 11:22:14 partab.cpp Version 2.7 Created 07/20/01 at 09:01:49 zbios.cpp Version 2.9 created 07/10/01 at 11:19:55 zbios.h Version 2.6 Created 07/10/01 at 11:19:56
Scripts:	pre-09 Wimsey JRL E4 EA AE run_dd sda sdb copy LX-09 post-09 Wimsey JRL E4 EA
Source disk setup:	Windows 2000 with NTFS & Fat32 Disk: E4 Host: JudgeDee Operator: JRL OS: Windows 2000/NT Date: Sat Jul 21 16:58:28 2001 DISKWIPE.EXE E4_SRC JudgeDee 80 E4 /src /noask /comment Windows 2000 source disk pqmagic /cmd=nt-src.txt Load Operating System to Source disk cmd: X:\ss\DISKHASH.EXE Hash Wimsey 80 /comment E4 /new_log /before

	Disk hash = 25BF8AF6B2D3E0BD1909C96E368DB27F51C49CBF N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 006152832 0000/001/01 0382/254/63 Boot 0B Fat32 2 X 008193150 009735390 0510/000/01 1023/254/63 0F extended 4 x 002056320 001237005 0638/000/01 0714/254/63 05 extended 5 S 000000063 001236942 0638/001/01 0714/254/63 07 NTFS 6 x 005349645 001638630 0843/000/01 0944/254/63 05 extended 7 S 000000063 001638567 0843/001/01 0944/254/63 17 other 8 x 008498385 001237005 1023/000/01 1023/254/63 05 extended 9 S 000000063 001236942 1023/001/01 1023/254/63 1B other
Destination Setup:	DISKWIPE.EXE LX-09 Wimsey 81 EA /noask /dst /new_log /comment JRL
Execute:	PARTAB.EXE LX-09 Wimsey 80 /all /new_log /comment JRL(E4) PARTAB.EXE LX-09 Wimsey 81 /all /new_log /comment JRL(EA) dd if=/dev/sda of=/dev/sdb bs=1b DISKCMP.EXE LX-09 Wimsey 80 E4 81 EA /new_log /comment JRL DISKHASH.EXE LX-09 Wimsey 80 /comment JRL (E4) /new_log /after
Log files & location:	test-archive/dd/gnu-4.0.36/LX-09
Expected Results:	src compares qualified equal to dst, src is truncated on dst truncation is logged Source disk unchanged
Actual Results:	src compares qualified equal to dst, src is truncated on dst truncation is logged except for 1 sector not copied to destination Source disk is unchanged
Log File Highlights:	Sectors Compared 17921835 Sectors Differ 1 Diffs range 17921834 Source (17938985) has 17150 more sectors than destination (17921835) Hash after test: 25BF8AF6B2D3E0BD1909C96E368DB27F51C49CBF dd: writing /dev/sdb: No space left on device
Analysis:	Expected results not achieved.

Product Name:	dd (GNU fileutils) 4.0.36
Test ID:	**DI(Linux)-10**
Case Summary:	Copy a LINUX SCSI source disk to a LINUX SCSI destination disk and the source contains a NTFS partition where the source disk is smaller than the destination
Tester Name:	JRL
Test Date:	Sun Dec 30 11:12:17 2001
PC:	Cadfael
Disks:	Source: DOS Drive 80 Physical Label E4 Linux device sda5 Destination: DOS Drive 81 Physical Label EB Linux device sdb1 Boot/Image media: Physical Label AE E4 is a QUANTUM ATLAS10K2-TY092J 17938985 Sectors, SCSI EB is a SEAGATE ST39204LC 17921835 Sectors, SCSI AE is a Maxtor53073H4 60030432 Sectors, IDE Jaz disk with Support software, scripts PC DOS 6.3 Boot floppy
Test Software:	diskhash.cpp Version 2.8 Created 07/10/01 at 11:22:14 diskwipe.cpp Version 2.8 Created 07/10/01 at 11:22:14 partab.cpp Version 2.7 Created 07/20/01 at 09:01:49 partcmp.cpp Version 2.5 Created 07/11/01 at 22:02:11 sechash.cpp Version 1.1 created 12/18/01 at 13:51:30 zbios.cpp Version 2.9 created 07/10/01 at 11:19:55 zbios.h Version 2.6 Created 07/10/01 at 11:19:56
Scripts:	pre-10 Cadfael JRL E4 EB AE run_dd sda5 sdb1 copy LX-10 post-10 Cadfael JRL E4 EB

Source disk setup:	Windows 2000 with NTFS & Fat32 Disk: E4 Host: JudgeDee Operator: JRL OS: Windows 2000/NT Date: Sat Jul 21 16:58:28 2001 DISKWIPE.EXE E4_SRC JudgeDee 80 E4 /src /noask /comment Windows 2000 source disk pqmagic /cmd=nt-src.txt Load Operating System to Source disk cmd: X:\ss\DISKHASH.EXE Hash Wimsey 80 /comment E4 /new_log /before Disk hash = 25BF8AF6B2D3E0BD1909C96E368DB27F51C49CBF N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 006152832 0000/001/01 0382/254/63 Boot 0B Fat32 2 X 008193150 009735390 0510/254/01 1023/254/63 0F extended 4 x 002056320 001237005 0638/000/01 0714/254/63 05 extended 5 S 000000063 001236942 0638/001/01 0714/254/63 07 NTFS 6 x 005349645 001638630 0843/000/01 0944/254/63 05 extended 7 S 000000063 001638567 0843/001/01 0944/254/63 17 other 8 x 008498385 001237005 1023/000/01 1023/254/63 05 extended 9 S 000000063 001236942 1023/001/01 1023/254/63 1B other
Destination Setup:	DISKWIPE.EXE LX-10 Cadfael 81 EB /noask /dst /new_log /comment JRL X:\PM\PQMAGIC /cmd=X:\PM\NT-SS-2.txt N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 001333332 0000/001/01 0082/254/63 07 NTFS
Execute:	PARTAB.EXE LX-10 Cadfael 80 /all /new_log /comment JRL(E4) PARTAB.EXE LX-10 Cadfael 81 /all /new_log /comment JRL(EB) dd if=/dev/sda5 of=/dev/sdb1 bs=1b PARTCMP.EXE LX-10 Cadfael 80 E4 81 EB /new_log /comment JRL /select 5 1 PARTCMP.EXE LX-10 Cadfael 80 E4 81 EB /new_log /comment JRL_Ref /select 5 1 DISKHASH.EXE LX-10 Cadfael 80 /comment JRL (E4) /new_log /after
Log files & location:	test-archive/dd/gnu-4.0.36/LX-10
Expected Results:	src compares qualified equal to dst Source disk unchanged
Actual Results:	src compares qualified equal to dst Source disk is unchanged
Log File Highlights:	Sectors Compared 1236942 Sectors Differ 0 Diffs range: Source (1236942) has 96390 fewer sectors than destination (1333332) Zero fill: 0 Src Byte fill (E4): 0 Dst Byte fill (EB): 96389 Other fill: 0 Other no fill: 1 Hash after test: 25BF8AF6B2D3E0BD1909C96E368DB27F51C49CBF
Analysis:	Expected results achieved

Product Name:	dd (GNU fileutils) 4.0.36
Test ID:	**DI(Linux)-11**
Case Summary:	Copy a LINUX SCSI source disk to a LINUX SCSI destination disk and the source contains a FAT32 partition where the source disk is the same size as the destination
Tester Name:	JRL
Test Date:	Fri Oct 19 12:34:02 2001
PC:	Rumpole
Disks:	Source: DOS Drive 80 Physical Label E4 Linux device sda1 Destination: DOS Drive 81 Physical Label EA Linux device sdb1

	Boot/Image media: Physical Label AE E4 is a QUANTUM ATLAS10K2-TY092J 17938985 Sectors, SCSI EA is a SEAGATE ST39204LC 17921835 Sectors, SCSI AE is a Maxtor53073H4 60030432 Sectors, IDE Jaz disk with Support software, scripts PC DOS 6.3 Boot floppy
Test Software:	diskhash.cpp Version 2.8 Created 07/10/01 at 11:22:14 diskwipe.cpp Version 2.8 Created 07/10/01 at 11:22:14 partab.cpp Version 2.7 Created 07/20/01 at 09:01:49 partcmp.cpp Version 2.5 Created 07/11/01 at 22:02:11 zbios.cpp Version 2.9 created 07/10/01 at 11:19:55 zbios.h Version 2.6 Created 07/10/01 at 11:19:56
Scripts:	pre-11 Rumpole JRL E4 EA AE run_dd sda1 sdb1 copy LX-11 post-11 Rumpole JRL E4 EA
Source disk setup:	Windows 2000 with NTFS & Fat32 Disk: E4 Host: JudgeDee Operator: JRL OS: Windows 2000/NT Date: Sat Jul 21 16:58:28 2001 DISKWIPE.EXE E4_SRC JudgeDee 80 E4 /src /noask /comment Windows 2000 source disk pqmagic /cmd=nt-src.txt Load Operating System to Source disk cmd: X:\ss\DISKHASH.EXE Hash Wimsey 80 /comment E4 /new_log /before Disk hash = 25BF8AF6B2D3E0BD1909C96E368DB27F51C49CBF N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 006152832 0000/001/01 0382/254/63 Boot 0B Fat32 2 X 008193150 009735390 0510/000/01 1023/254/63 0F extended 4 x 002056320 001237005 0638/000/01 0714/254/63 05 extended 5 S 000000063 001236942 0638/001/01 0714/254/63 07 NTFS 6 x 005349645 001638630 0843/000/01 0944/254/63 05 extended 7 S 000000063 001638567 0843/001/01 0944/254/63 17 other 8 x 008498385 001237005 1023/000/01 1023/254/63 05 extended 9 S 000000063 001236942 1023/001/01 1023/254/63 1B other
Destination Setup:	DISKWIPE.EXE LX-11 Rumpole 81 EA /noask /dst /new_log /comment JRL X:\PM\PQMAGIC /cmd=X:\PM\F32-ES-2.txt N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 006152832 0000/001/01 0382/254/63 0B Fat32
Execute:	PARTAB.EXE LX-11 Rumpole 80 /all /new_log /comment JRL(E4) PARTAB.EXE LX-11 Rumpole 81 /all /new_log /comment JRL(EA) dd if=/dev/sda1 of=/dev/sdb1 bs=1b PARTCMP.EXE LX-11 Rumpole 80 E4 81 EA /new_log /comment JRL /select 1 1 DISKHASH.EXE LX-11 Rumpole 80 /comment JRL (E4) /new_log /after
Log files & location:	test-archive/dd/gnu-4.0.36/LX-11
Expected Results:	src compares equal to dst Source disk unchanged
Actual Results:	src compares equal to dst Source disk is unchanged
Log File Highlights:	Sectors Compared 6152832 Sectors Differ 0 Diffs range: Hash after test: 25BF8AF6B2D3E0BD1909C96E368DB27F51C49CBF
Analysis:	Expected results achieved

Product Name:	dd (GNU fileutils) 4.0.36
Test ID:	**DI(Linux)-12**

Case Summary:	Copy a LINUX SCSI source disk to a LINUX SCSI destination disk and the source contains a FAT16 partition where the source disk is larger than the destination
Tester Name:	JRL
Test Date:	Sun Aug 12 12:28:01 2001
PC:	Rumpole
Disks:	Source: DOS Drive 80 Physical Label E3 Linux device sda1 Destination: DOS Drive 81 Physical Label E0 Linux device sdb1 Boot/Image media: Physical Label AD E3 is a QUANTUM ATLAS10K2-TY092J 17938985 Sectors, SCSI E0 is a QUANTUM ATLAS10K2-TY092J 17938985 Sectors, SCSI AD is a Maxtor53073H4 60030432 Sectors, IDE Jaz disk with Support software, scripts PC DOS 6.3 Boot floppy
Test Software:	diskhash.cpp Version 2.8 Created 07/10/01 at 11:22:14 diskwipe.cpp Version 2.8 Created 07/10/01 at 11:22:14 partab.cpp Version 2.7 Created 07/20/01 at 09:01:49 partcmp.cpp Version 2.5 Created 07/11/01 at 22:02:11 zbios.cpp Version 2.9 created 07/10/01 at 11:19:55 zbios.h Version 2.6 Created 07/10/01 at 11:19:56
Scripts:	pre-12 Rumpole JRL E3 E0 AD run_dd sda1 sdb1 copy LX-12 post-12 Rumpole JRL E3 E0
Source disk setup:	Dual boot Linux/Windows Me with EXT2 & Fat16 Disk: E3 Host: Cadfael Operator: JRL OS: Linux Red Hat 7.1/Windows Me Date: Sat Jul 21 16:17:29 2001 DISKWIPE.EXE E3_SRC Rumpole 80 E3 /src /new_log pqmagic /cmd=fat-src.txt Load Operating System to Source disk DISKHASH.EXE E3_SRC Rumpole 80 /before Disk hash = 0F9DACDA6C63D197C048782003D324108CEC7AB0 N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 001236942 0000/001/01 0076/254/63 Boot 06 Fat16 2 X 002249100 007181055 0140/000/01 0586/254/63 05 extended 3 S 000000063 000208782 0140/001/01 0152/254/63 83 Linux 4 x 000208845 000144585 0153/000/01 0161/254/63 05 extended 5 S 000000063 000144522 0153/001/01 0161/254/63 06 Fat16 6 x 004450005 000192780 0417/000/01 0428/254/63 05 extended 7 S 000000063 000192717 0417/001/01 0428/254/63 16 other 9 P 009430155 006152895 0587/000/01 0969/254/63 83 Linux 10 P 017510850 000417690 1023/000/01 1023/254/63 82 Linux swap
Destination Setup:	DISKWIPE.EXE LX-12 Rumpole 81 E0 /noask /dst /new_log /comment JRL X:\PM\PQMAGIC /cmd=X:\PM\F16-BS-2.txt N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 001140552 0000/001/01 0070/254/63 06 Fat16
Execute:	PARTAB.EXE LX-12 Rumpole 80 /all /new_log /comment JRL(E3) PARTAB.EXE LX-12 Rumpole 81 /all /new_log /comment JRL(E0) dd if=/dev/sda1 of=/dev/sdb1 bs=1b PARTCMP.EXE LX-12 Rumpole 80 E3 81 E0 /new_log /comment JRL /select 1 1 DISKHASH.EXE LX-12 Rumpole 80 /comment JRL (E3) /new_log /after
Log files & location:	test-archive/dd/gnu-4.0.36/LX-12
Expected Results:	src compares qualified equal to dst, src is truncated on dst truncation is logged Source disk unchanged
Actual	src compares qualified equal to dst, src is truncated on dst

Results:	truncation is logged
	Source disk is unchanged

Log File Highlights:	Sectors Compared 1140552
	Sectors Differ 0
	Diffs range:
	Source (1236942) has 96390 more sectors than destination (1140552)
	Hash after test: 0F9DACDA6C63D197C048782003D324108CEC7AB0
	dd: writing /dev/sdb1: No space left on device
Analysis:	Expected results achieved

Product Name:	dd (GNU fileutils) 4.0.36
Test ID:	**DI(Linux)-13**
Case Summary:	Copy a LINUX IDE source disk
	to a LINUX SCSI destination disk
	where the source disk is smaller than the destination
Tester Name:	JRL
Test Date:	Mon Jan 14 12:42:07 2002
PC:	Cadfael
Disks:	Source: DOS Drive 80 Physical Label F5 Linux device hdb
	Destination: DOS Drive 81 Physical Label CB Linux device sda
	Boot/Image media: Physical Label AE
	F5 is an IBM-DTLA-307020 40188960 Sectors, IDE
	CB is a SEAGATE ST336705LC 71687370 Sectors, SCSI
	AE is a Maxtor53073H4 60030432 Sectors, IDE
	Jaz disk with Support software, scripts
	PC DOS 6.3 Boot floppy
Test Software:	diskcmp.cpp Version 2.8 Created 07/10/01 at 11:22:13
	diskhash.cpp Version 2.8 Created 07/10/01 at 11:22:14
	diskwipe.cpp Version 2.8 Created 07/10/01 at 11:22:14
	partab.cpp Version 2.7 Created 07/20/01 at 09:01:49
	zbios.cpp Version 2.9 created 07/10/01 at 11:19:55
	zbios.h Version 2.6 Created 07/10/01 at 11:19:56
Scripts:	pre-13 Cadfael JRL F5 CB AE
	run_dd hdb sda copy LX-13
	post-13 Cadfael JRL F5 CB
Source disk setup:	Dual boot Linux/Windows Me with EXT2 & Fat16
	Disk: F5
	Host: Cadfael
	Operator: JRL
	OS: WindowsMe/Linux
	Date: Sat Aug 11 11:13:43 2001
	DISKWIPE.EXE F5_SRC Cadfael 80 F5 /src
	pqmagic /cmd=fat-src.txt
	Load Operating System to Source disk
	DISKHASH.EXE F5_SRC Cadfael 80 /before
	Disk hash = 83A0002816BBF089F8BE33C41C92C3B5A0F42A54
	N Start LBA Length Start C/H/S End C/H/S boot Partition type
	1 P 000000063 001236942 0000/001/01 0076/254/63 Boot 06 Fat16
	2 X 002249100 007181055 0140/000/01 0586/254/63 05 extended
	3 S 000000063 000208782 0140/001/01 0152/254/63 83 Linux
	4 x 000208845 000144585 0153/000/01 0161/254/63 05 extended
	5 S 000000063 000144522 0153/001/01 0161/254/63 06 Fat16
	6 x 004450005 000192780 0417/000/01 0428/254/63 05 extended
	7 S 000000063 000192717 0417/001/01 0428/254/63 16 other
	9 P 009430155 006152895 0587/000/01 0969/254/63 83 Linux
	10 P 039760875 000417690 1023/000/01 1023/254/63 82 Linux swap
Destination Setup:	DISKWIPE.EXE LX-13 Cadfael 81 CB /noask /dst /new_log /comment JRL
Execute:	PARTAB.EXE LX-13 Cadfael 80 /all /new_log /comment JRL(F5)
	PARTAB.EXE LX-13 Cadfael 81 /all /new_log /comment JRL(CB)
	dd if=/dev/hdb of=/dev/sda bs=1b
	DISKCMP.EXE LX-13 Cadfael 80 F5 81 CB /new_log /comment JRL

	DISKHASH.EXE LX-13 Cadfael 80 /comment JRL (F5) /new_log /after
Log files & location:	test-archive/dd/gnu-4.0.36/LX-13
Expected Results:	src compares qualified equal to dst Source disk unchanged
Actual Results:	src compares qualified equal to dst Source disk is unchanged
Log File Highlights:	Sectors Compared 40188960 Sectors Differ 0 Diffs range Source (40188960) has 31498410 fewer sectors than destination (71687370) Zero fill: 0 Src Byte fill (F5): 0 Dst Byte fill (CB): 31498410 Other fill: 0 Other no fill: 0 Hash after test: 83A0002816BBF089F8BE33C41C92C3B5A0F42A54
Analysis:	Expected results achieved

Product Name:	dd (GNU fileutils) 4.0.36
Test ID:	**DI(Linux)-14**
Case Summary:	Copy a LINUX IDE source disk to a LINUX SCSI destination disk where the source disk is larger than the destination
Tester Name:	JRL
Test Date:	Sat Feb 02 11:38:00 2002
PC:	Cadfael
Disks:	Source: DOS Drive 80 Physical Label F5 Linux device hdb Destination: DOS Drive 81 Physical Label EB Linux device sda Boot/Image media: Physical Label AE F5 is an IBM-DTLA-307020 40188960 Sectors, IDE EB is a SEAGATE ST39204LC 17921835 Sectors, SCSI AE is a Maxtor53073H4 60030432 Sectors, IDE Jaz disk with Support software, scripts PC DOS 6.3 Boot floppy
Test Software:	diskcmp.cpp Version 2.8 Created 07/10/01 at 11:22:13 diskhash.cpp Version 2.8 Created 07/10/01 at 11:22:14 diskwipe.cpp Version 2.8 Created 07/10/01 at 11:22:14 partab.cpp Version 2.7 Created 07/20/01 at 09:01:49 zbios.cpp Version 2.9 created 07/10/01 at 11:19:55 zbios.h Version 2.6 Created 07/10/01 at 11:19:56
Scripts:	pre-14 Cadfael JRL F5 EB AE run_dd hdb sda copy LX-14 post-14 Cadfael JRL F5 EB
Source disk setup:	Dual boot Linux/Windows Me with EXT2 & Fat16 Disk: F5 Host: Cadfael Operator: JRL OS: WindowsMe/Linux Date: Sat Aug 11 11:13:43 2001 DISKWIPE.EXE F5_SRC Cadfael 80 F5 /src pqmagic /cmd=fat-src.txt Load Operating System to Source disk DISKHASH.EXE F5_SRC Cadfael 80 /before Disk hash = 83A0002816BBF089F8BE33C41C92C3B5A0F42A54 N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 001236942 0000/001/01 0076/254/63 Boot 06 Fat16 2 X 002249100 007181055 0140/000/01 0586/254/63 05 extended 3 S 000000063 000208782 0140/001/01 0152/254/63 83 Linux

	4 x 000208845 000144585 0153/000/01 0161/254/63 05 extended 5 S 000000063 000144522 0153/001/01 0161/254/63 06 Fat16 6 x 004450005 000192780 0417/000/01 0428/254/63 05 extended 7 S 000000063 000192717 0417/001/01 0428/254/63 16 other 9 P 009430155 006152895 0587/000/01 0969/254/63 83 Linux 10 P 039760875 000417690 1023/000/01 1023/254/63 82 Linux swap
Destination Setup:	DISKWIPE.EXE LX-14 Cadfael 81 EB /noask /dst /new_log /comment JRL
Execute:	PARTAB.EXE LX-14 Cadfael 80 /all /new_log /comment JRL(F5) PARTAB.EXE LX-14 Cadfael 81 /all /new_log /comment JRL(EB) dd if=/dev/hdb of=/dev/sda bs=1b DISKCMP.EXE LX-14 Cadfael 80 F5 81 EB /new_log /comment JRL DISKHASH.EXE LX-14 Cadfael 80 /comment JRL (F5) /new_log /after
Log files & location:	test-archive/dd/gnu-4.0.36/LX-14
Expected Results:	src compares qualified equal to dst, src is truncated on dst truncation is logged Source disk unchanged
Actual Results:	src compares qualified equal to dst, src is truncated on dst truncation is logged except for 1 sector not copied to destination Source disk is unchanged
Log File Highlights:	Sectors Compared 17921835 Sectors Differ 1 Diffs range 17921834 Source (40188960) has 22267125 more sectors than destination (17921835) Hash after test: 83A0002816BBF089F8BE33C41C92C3B5A0F42A54 dd: writing /dev/sda: No space left on device
Analysis:	Expected results not achieved.

Product Name:	dd (GNU fileutils) 4.0.36
Test ID:	**DI(Linux)-15**
Case Summary:	Copy a LINUX SCSI source disk to a LINUX IDE destination disk where the source disk is smaller than the destination
Tester Name:	JRL
Test Date:	Sat Aug 11 10:21:31 2001
PC:	Rumpole
Disks:	Source: DOS Drive 81 Physical Label E3 Linux device sda Destination: DOS Drive 80 Physical Label A8 Linux device hdb Boot/Image media: Physical Label AD E3 is a QUANTUM ATLAS10K2-TY092J 17938985 Sectors, SCSI A8 is a WDC WD200BB-00AUA1 39102336 Sectors, IDE AD is a Maxtor53073H4 60030432 Sectors, IDE Jaz disk with Support software, scripts PC DOS 6.3 Boot floppy
Test Software:	diskcmp.cpp Version 2.8 Created 07/10/01 at 11:22:13 diskhash.cpp Version 2.8 Created 07/10/01 at 11:22:14 diskwipe.cpp Version 2.8 Created 07/10/01 at 11:22:14 partab.cpp Version 2.7 Created 07/20/01 at 09:01:49 zbios.cpp Version 2.9 created 07/10/01 at 11:19:55 zbios.h Version 2.6 Created 07/10/01 at 11:19:56
Scripts:	pre-15 Rumpole JRL E3 A8 AD run_dd sda hdb copy LX-15 post-15 Rumpole JRL E3 A8
Source disk setup:	Dual boot Linux/Windows Me with EXT2 & Fat16 Disk: E3 Host: Cadfael Operator: JRL

	OS: Linux Red Hat 7.1/Windows Me Date: Sat Jul 21 16:17:29 2001 DISKWIPE.EXE E3_SRC Rumpole 80 E3 /src /new_log pqmagic /cmd=fat-src.txt Load Operating System to Source disk DISKHASH.EXE E3_SRC Rumpole 80 /before Disk hash = 0F9DACDA6C63D197C048782003D324108CEC7AB0 N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 001236942 0000/001/01 0076/254/63 Boot 06 Fat16 2 X 002249100 007181055 0140/000/01 0586/254/63 05 extended 3 S 000000063 000208782 0140/001/01 0152/254/63 83 Linux 4 x 000208845 000144585 0153/000/01 0161/254/63 05 extended 5 S 000000063 000144522 0153/001/01 0161/254/63 06 Fat16 6 x 004450005 000192780 0417/000/01 0428/254/63 05 extended 7 S 000000063 000192717 0417/001/01 0428/254/63 16 other 9 P 009430155 006152895 0587/000/01 0969/254/63 83 Linux 10 P 017510850 000417690 1023/000/01 1023/254/63 82 Linux swap
Destination Setup:	DISKWIPE.EXE LX-15 Rumpole 80 A8 /noask /dst /new_log /comment JRL
Execute:	PARTAB.EXE LX-15 Rumpole 80 /all /new_log /comment JRL(E3) PARTAB.EXE LX-15 Rumpole 81 /all /new_log /comment JRL(A8) dd if=/dev/sda of=/dev/hdb bs=1b DISKCMP.EXE LX-15 Rumpole 81 E3 80 A8 /new_log /comment JRL DISKHASH.EXE LX-15 Rumpole 81 /comment JRL (E3) /new_log /after
Log files & location:	test-archive/dd/gnu-4.0.36/LX-15
Expected Results:	src compares qualified equal to dst Source disk unchanged
Actual Results:	src compares qualified equal to dst except for 1 sector not copied to destination Source disk is unchanged
Log File Highlights:	Sectors Compared 17938985 Sectors Differ 1 Diffs range 17938984 Source (17938985) has 21163351 fewer sectors than destination (39102336) Zero fill: 0 Src Byte fill (E3): 0 Dst Byte fill (A8): 21163351 Other fill: 0 Other no fill: 0 Hash after test: 0F9DACDA6C63D197C048782003D324108CEC7AB0
Analysis:	Expected results not achieved.

Product Name:	dd (GNU fileutils) 4.0.36
Test ID:	**DI(Linux)-16**
Case Summary:	Copy a LINUX SCSI source disk to a LINUX IDE destination disk where the source disk is larger than the destination
Tester Name:	JRL
Test Date:	Fri Aug 17 11:02:15 2001
PC:	Rumpole
Disks:	Source: DOS Drive 81 Physical Label CC Linux device sda Destination: DOS Drive 80 Physical Label A9 Linux device hdb Boot/Image media: Physical Label AD CC is a SEAGATE ST336705LC 71687370 Sectors, SCSI A9 is a WDC WD200BB-00AUA1 39102336 Sectors, IDE AD is a Maxtor53073H4 60030432 Sectors, IDE Jaz disk with Support software, scripts PC DOS 6.3 Boot floppy
Test	diskcmp.cpp Version 2.8 Created 07/10/01 at 11:22:13

Software:	diskhash.cpp Version 2.8 Created 07/10/01 at 11:22:14 diskwipe.cpp Version 2.8 Created 07/10/01 at 11:22:14 partab.cpp Version 2.7 Created 07/20/01 at 09:01:49 zbios.cpp Version 2.9 created 07/10/01 at 11:19:55 zbios.h Version 2.6 Created 07/10/01 at 11:19:56
Scripts:	pre-16 Rumpole JRL CC A9 AD run_dd sda hdb copy LX-16 post-16 Rumpole JRL CC A9
Source disk setup:	DISKWIPE only Disk: CC Host: Rumpole Operator: JRL OS: none Date: Thu Aug 16 14:35:27 2001 DISKWIPE.EXE CC_SRC Rumpole 80 CC /src No partitions defined No OS loaded DISKHASH.EXE CC_SRC Rumpole 80 /before Disk hash = 6001BF9E36538F36751C6FEC94E4CE6DCFC85C9A
Destination Setup:	DISKWIPE.EXE LX-16 Rumpole 80 A9 /noask /dst /new_log /comment JRL
Execute:	PARTAB.EXE LX-16 Rumpole 80 /all /new_log /comment JRL(CC) PARTAB.EXE LX-16 Rumpole 81 /all /new_log /comment JRL(A9) dd if=/dev/sda of=/dev/hdb bs=1b DISKCMP.EXE LX-16 Rumpole 81 CC 80 A9 /new_log /comment JRL DISKHASH.EXE LX-16 Rumpole 81 /comment JRL (CC) /new_log /after
Log files & location:	test-archive/dd/gnu-4.0.36/LX-16
Expected Results:	src compares qualified equal to dst, src is truncated on dst truncation is logged Source disk unchanged
Actual Results:	src compares qualified equal to dst, src is truncated on dst truncation is logged Source disk is unchanged
Log File Highlights:	Sectors Compared 39102336 Sectors Differ 0 Diffs range Source (71687370) has 32585034 more sectors than destination (39102336) Hash after test: 6001BF9E36538F36751C6FEC94E4CE6DCFC85C9A dd: writing /dev/hdb: No space left on device
Analysis:	Expected results achieved

Product Name:	dd (GNU fileutils) 4.0.36
Test ID:	**DI(Linux)-18**
Case Summary:	Create an image from a LINUX IDE source disk to a LINUX IDE destination disk where the source disk is smaller than the destination
Tester Name:	JRL
Test Date:	Sat Dec 29 10:28:56 2001
PC:	Cadfael
Disks:	Source: DOS Drive 80 Physical Label F6 Linux device hda Destination: DOS Drive 81 Physical Label AB Linux device hdb Boot/Image media: Physical Label CE F6 is an IBM-DTLA-307020 40188960 Sectors, IDE AB is a Maxtor53073H4 60030432 Sectors, IDE CE is a SEAGATE ST336705LC 71687370 Sectors, SCSI Jaz disk with Support software, scripts PC DOS 6.3 Boot floppy
Test	diskcmp.cpp Version 2.8 Created 07/10/01 at 11:22:13

Software:	diskhash.cpp Version 2.8 Created 07/10/01 at 11:22:14 diskwipe.cpp Version 2.8 Created 07/10/01 at 11:22:14 partab.cpp Version 2.7 Created 07/20/01 at 09:01:49 zbios.cpp Version 2.9 created 07/10/01 at 11:19:55 zbios.h Version 2.6 Created 07/10/01 at 11:19:56
Scripts:	pre-18 Cadfael JRL F6 AB CE run_dd hda hdb image LX-18 post-18 Cadfael JRL F6 AB
Source disk setup:	Windows 2000 with NTFS & Fat32 Disk: F6 Host: Wimsey Operator: JRL OS: Windows 2000 Date: Sat Jul 21 15:53:12 2001 DISKWIPE.EXE F6_SRC Wimsey 80 F6 /src /new_log /noask /comment Windows 2000/NT source pqmagic /cmd=nt-src.txt Load Operating System to Source disk DISKHASH.EXE LX-27 Morse 80 /before Disk hash = 8034683D5D55BA51409AC7B5CB0845CA2CF6B235 N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 006152832 0000/001/01 0382/254/63 Boot 0B Fat32 2 X 008193150 031985415 0510/000/01 1023/254/63 0F extended 4 x 002056320 001237005 0638/000/01 0714/254/63 05 extended 5 S 000000063 001236942 0638/001/01 0714/254/63 07 NTFS 6 x 005349645 001638630 0843/000/01 0944/254/63 05 extended 7 S 000000063 001638567 0843/001/01 0944/254/63 17 other 8 x 030748410 001237005 1023/000/01 1023/254/63 05 extended 9 S 000000063 001236942 1023/001/01 1023/254/63 1B other
Destination Setup:	DISKWIPE.EXE LX-18 Cadfael 81 AB /noask /dst /new_log /comment JRL
Execute:	x:\ss\PARTAB.EXE LX-18 F6 80 /all /new_log /comment JRL(F6) PARTAB.EXE LX-18 Cadfael 81 /all /new_log /comment JRL(AB) dd if=/dev/hda skip=0 count=1000000 bs=1b | gzip > img.101.gz dd if=/dev/hda skip=1000000 count=1000000 bs=1b | gzip > img.102.gz dd if=/dev/hda skip=2000000 count=1000000 bs=1b | gzip > img.103.gz dd if=/dev/hda skip=3000000 count=1000000 bs=1b | gzip > img.104.gz dd if=/dev/hda skip=4000000 count=1000000 bs=1b | gzip > img.105.gz dd if=/dev/hda skip=5000000 count=1000000 bs=1b | gzip > img.106.gz dd if=/dev/hda skip=6000000 count=1000000 bs=1b | gzip > img.107.gz dd if=/dev/hda skip=7000000 count=1000000 bs=1b | gzip > img.108.gz dd if=/dev/hda skip=8000000 count=1000000 bs=1b | gzip > img.109.gz dd if=/dev/hda skip=9000000 count=1000000 bs=1b | gzip > img.110.gz dd if=/dev/hda skip=10000000 count=1000000 bs=1b | gzip > img.111.gz dd if=/dev/hda skip=11000000 count=1000000 bs=1b | gzip > img.112.gz dd if=/dev/hda skip=12000000 count=1000000 bs=1b | gzip > img.113.gz dd if=/dev/hda skip=13000000 count=1000000 bs=1b | gzip > img.114.gz dd if=/dev/hda skip=14000000 count=1000000 bs=1b | gzip > img.115.gz dd if=/dev/hda skip=15000000 count=1000000 bs=1b | gzip > img.116.gz dd if=/dev/hda skip=16000000 count=1000000 bs=1b | gzip > img.117.gz dd if=/dev/hda skip=17000000 count=1000000 bs=1b | gzip > img.118.gz dd if=/dev/hda skip=18000000 count=1000000 bs=1b | gzip > img.119.gz dd if=/dev/hda skip=19000000 count=1000000 bs=1b | gzip > img.120.gz dd if=/dev/hda skip=20000000 count=1000000 bs=1b | gzip > img.121.gz dd if=/dev/hda skip=21000000 count=1000000 bs=1b | gzip > img.122.gz dd if=/dev/hda skip=22000000 count=1000000 bs=1b | gzip > img.123.gz dd if=/dev/hda skip=23000000 count=1000000 bs=1b | gzip > img.124.gz dd if=/dev/hda skip=24000000 count=1000000 bs=1b | gzip > img.125.gz dd if=/dev/hda skip=25000000 count=1000000 bs=1b | gzip > img.126.gz dd if=/dev/hda skip=26000000 count=1000000 bs=1b | gzip > img.127.gz dd if=/dev/hda skip=27000000 count=1000000 bs=1b | gzip > img.128.gz dd if=/dev/hda skip=28000000 count=1000000 bs=1b | gzip > img.129.gz dd if=/dev/hda skip=29000000 count=1000000 bs=1b | gzip > img.130.gz dd if=/dev/hda skip=30000000 count=1000000 bs=1b | gzip > img.131.gz dd if=/dev/hda skip=31000000 count=1000000 bs=1b | gzip > img.132.gz dd if=/dev/hda skip=32000000 count=1000000 bs=1b | gzip > img.133.gz

```
                  dd if=/dev/hda skip=33000000 count=1000000 bs=1b  | gzip > img.134.gz
                  dd if=/dev/hda skip=34000000 count=1000000 bs=1b  | gzip > img.135.gz
                  dd if=/dev/hda skip=35000000 count=1000000 bs=1b  | gzip > img.136.gz
                  dd if=/dev/hda skip=36000000 count=1000000 bs=1b  | gzip > img.137.gz
                  dd if=/dev/hda skip=37000000 count=1000000 bs=1b  | gzip > img.138.gz
                  dd if=/dev/hda skip=38000000 count=1000000 bs=1b  | gzip > img.139.gz
                  dd if=/dev/hda skip=39000000 count=1000000 bs=1b  | gzip > img.140.gz
                  dd if=/dev/hda skip=40000000 count=1000000 bs=1b  | gzip > img.141.gz
                  gunzip img.101.gz  | dd of=/dev/hdb seek=0 count=1000000 bs=1b
                  gunzip img.102.gz  | dd of=/dev/hdb seek=1000000 count=1000000 bs=1b
                  gunzip img.103.gz  | dd of=/dev/hdb seek=2000000 count=1000000 bs=1b
                  gunzip img.104.gz  | dd of=/dev/hdb seek=3000000 count=1000000 bs=1b
                  gunzip img.105.gz  | dd of=/dev/hdb seek=4000000 count=1000000 bs=1b
                  gunzip img.106.gz  | dd of=/dev/hdb seek=5000000 count=1000000 bs=1b
                  gunzip img.107.gz  | dd of=/dev/hdb seek=6000000 count=1000000 bs=1b
                  gunzip img.108.gz  | dd of=/dev/hdb seek=7000000 count=1000000 bs=1b
                  gunzip img.109.gz  | dd of=/dev/hdb seek=8000000 count=1000000 bs=1b
                  gunzip img.110.gz  | dd of=/dev/hdb seek=9000000 count=1000000 bs=1b
                  gunzip img.111.gz  | dd of=/dev/hdb seek=10000000 count=1000000 bs=1b
                  gunzip img.112.gz  | dd of=/dev/hdb seek=11000000 count=1000000 bs=1b
                  gunzip img.113.gz  | dd of=/dev/hdb seek=12000000 count=1000000 bs=1b
                  gunzip img.114.gz  | dd of=/dev/hdb seek=13000000 count=1000000 bs=1b
                  gunzip img.115.gz  | dd of=/dev/hdb seek=14000000 count=1000000 bs=1b
                  gunzip img.116.gz  | dd of=/dev/hdb seek=15000000 count=1000000 bs=1b
                  gunzip img.117.gz  | dd of=/dev/hdb seek=16000000 count=1000000 bs=1b
                  gunzip img.118.gz  | dd of=/dev/hdb seek=17000000 count=1000000 bs=1b
                  gunzip img.119.gz  | dd of=/dev/hdb seek=18000000 count=1000000 bs=1b
                  gunzip img.120.gz  | dd of=/dev/hdb seek=19000000 count=1000000 bs=1b
                  gunzip img.121.gz  | dd of=/dev/hdb seek=20000000 count=1000000 bs=1b
                  gunzip img.122.gz  | dd of=/dev/hdb seek=21000000 count=1000000 bs=1b
                  gunzip img.123.gz  | dd of=/dev/hdb seek=22000000 count=1000000 bs=1b
                  gunzip img.124.gz  | dd of=/dev/hdb seek=23000000 count=1000000 bs=1b
                  gunzip img.125.gz  | dd of=/dev/hdb seek=24000000 count=1000000 bs=1b
                  gunzip img.126.gz  | dd of=/dev/hdb seek=25000000 count=1000000 bs=1b
                  gunzip img.127.gz  | dd of=/dev/hdb seek=26000000 count=1000000 bs=1b
                  gunzip img.128.gz  | dd of=/dev/hdb seek=27000000 count=1000000 bs=1b
                  gunzip img.129.gz  | dd of=/dev/hdb seek=28000000 count=1000000 bs=1b
                  gunzip img.130.gz  | dd of=/dev/hdb seek=29000000 count=1000000 bs=1b
                  gunzip img.131.gz  | dd of=/dev/hdb seek=30000000 count=1000000 bs=1b
                  gunzip img.132.gz  | dd of=/dev/hdb seek=31000000 count=1000000 bs=1b
                  gunzip img.133.gz  | dd of=/dev/hdb seek=32000000 count=1000000 bs=1b
                  gunzip img.134.gz  | dd of=/dev/hdb seek=33000000 count=1000000 bs=1b
                  gunzip img.135.gz  | dd of=/dev/hdb seek=34000000 count=1000000 bs=1b
                  gunzip img.136.gz  | dd of=/dev/hdb seek=35000000 count=1000000 bs=1b
                  gunzip img.137.gz  | dd of=/dev/hdb seek=36000000 count=1000000 bs=1b
                  gunzip img.138.gz  | dd of=/dev/hdb seek=37000000 count=1000000 bs=1b
                  gunzip img.139.gz  | dd of=/dev/hdb seek=38000000 count=1000000 bs=1b
                  gunzip img.140.gz  | dd of=/dev/hdb seek=39000000 count=1000000 bs=1b
                  gunzip img.141.gz  | dd of=/dev/hdb seek=40000000 count=1000000 bs=1b
                  DISKCMP.EXE LX-18 Cadfael 80 F6 81 AB /new_log /comment JRL
                  DISKHASH.EXE LX-18 Cadfael 80 /comment JRL (F6) /new_log /after
```

Log files & location:	test-archive/dd/gnu-4.0.36/LX-18
Expected Results:	src compares qualified equal to dst Source disk unchanged
Actual Results:	src compares qualified equal to dst Source disk is unchanged
Log File Highlights:	Sectors Compared 40188960 Sectors Differ 0 Diffs range Source (40188960) has 19841472 fewer sectors than destination (60030432) Zero fill: 0 Src Byte fill (F6): 0 Dst Byte fill (AB): 19841472 Other fill: 0 Other no fill: 0 Hash after test: 8034683D5D55BA51409AC7B5CB0845CA2CF6B235

Analysis:	Expected results achieved

Product Name:	dd (GNU fileutils) 4.0.36
Test ID:	**DI(Linux)-20**
Case Summary:	Create an image from a LINUX IDE source disk to a LINUX IDE destination disk where the source disk is the same size as the destination
Tester Name:	JRL
Test Date:	Thu Aug 23 11:32:28 2001
PC:	Cadfael
Disks:	Source: DOS Drive 80 Physical Label F5 Linux device hda Destination: DOS Drive 81 Physical Label F8 Linux device hdb Boot/Image media: Physical Label CD F5 is an IBM-DTLA-307020 40188960 Sectors, IDE F8 is an IBM-DTLA-307020 40188960 Sectors, IDE CD is a SEAGATE ST336705LC 71687370 Sectors, SCSI Jaz disk with Support software, scripts PC DOS 6.3 Boot floppy
Test Software:	diskcmp.cpp Version 2.8 Created 07/10/01 at 11:22:13 diskhash.cpp Version 2.8 Created 07/10/01 at 11:22:14 diskwipe.cpp Version 2.8 Created 07/10/01 at 11:22:14 partab.cpp Version 2.7 Created 07/20/01 at 09:01:49 zbios.cpp Version 2.9 created 07/10/01 at 11:19:55 zbios.h Version 2.6 Created 07/10/01 at 11:19:56
Scripts:	pre-20 Cadfael JRL F5 F8 CD run_dd hda hdb image LX-20 post-20 Cadfael JRL F5 F8
Source disk setup:	Dual boot Linux/Windows Me with EXT2 & Fat16 Disk: F5 Host: Cadfael Operator: JRL OS: WindowsMe/Linux Date: Sat Aug 11 11:13:43 2001 DISKWIPE.EXE F5_SRC Cadfael 80 F5 /src pqmagic /cmd=fat-src.txt Load Operating System to Source disk DISKHASH.EXE F5_SRC Cadfael 80 /before Disk hash = 83A0002816BBF089F8BE33C41C92C3B5A0F42A54 N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 001236942 0000/001/01 0076/254/63 Boot 06 Fat16 2 X 002249100 007181055 0140/000/01 0586/254/63 05 extended 3 S 000000063 000208782 0140/001/01 0152/254/63 83 Linux 4 x 000208845 000144585 0153/000/01 0161/254/63 05 extended 5 S 000000063 000144522 0153/001/01 0161/254/63 06 Fat16 6 x 004450005 000192780 0417/000/01 0428/254/63 05 extended 7 S 000000063 000192717 0417/001/01 0428/254/63 16 other 9 P 009430155 006152895 0587/000/01 0969/254/63 83 Linux 10 P 039760875 000417690 1023/000/01 1023/254/63 82 Linux swap
Destination Setup:	DISKWIPE.EXE LX-20 Cadfael 81 F8 /noask /dst /new_log /comment JRL
Execute:	PARTAB.EXE LX-20 Cadfael 80 /all /new_log /comment JRL(F5) PARTAB.EXE LX-20 Cadfael 81 /all /new_log /comment JRL(F8) dd if=/dev/hda skip=0 count=4000000 bs=1b | gzip > img.101.gz dd if=/dev/hda skip=4000000 count=4000000 bs=1b | gzip > img.102.gz dd if=/dev/hda skip=8000000 count=4000000 bs=1b | gzip > img.103.gz dd if=/dev/hda skip=12000000 count=4000000 bs=1b | gzip > img.104.gz dd if=/dev/hda skip=16000000 count=4000000 bs=1b | gzip > img.105.gz dd if=/dev/hda skip=20000000 count=4000000 bs=1b | gzip > img.106.gz dd if=/dev/hda skip=24000000 count=4000000 bs=1b | gzip > img.107.gz dd if=/dev/hda skip=28000000 count=4000000 bs=1b | gzip > img.108.gz dd if=/dev/hda skip=32000000 count=4000000 bs=1b | gzip > img.109.gz dd if=/dev/hda skip=36000000 count=4000000 bs=1b | gzip > img.110.gz dd if=/dev/hda skip=40000000 count=4000000 bs=1b | gzip > img.111.gz

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```
gunzip img.101.gz | dd of=/dev/hdb seek=0 count=4000000 bs=1b
gunzip img.102.gz | dd of=/dev/hdb seek=4000000 count=4000000 bs=1b
gunzip img.103.gz | dd of=/dev/hdb seek=8000000 count=4000000 bs=1b
gunzip img.104.gz | dd of=/dev/hdb seek=12000000 count=4000000 bs=1b
gunzip img.105.gz | dd of=/dev/hdb seek=16000000 count=4000000 bs=1b
gunzip img.106.gz | dd of=/dev/hdb seek=20000000 count=4000000 bs=1b
gunzip img.107.gz | dd of=/dev/hdb seek=24000000 count=4000000 bs=1b
gunzip img.108.gz | dd of=/dev/hdb seek=28000000 count=4000000 bs=1b
gunzip img.109.gz | dd of=/dev/hdb seek=32000000 count=4000000 bs=1b
gunzip img.110.gz | dd of=/dev/hdb seek=36000000 count=4000000 bs=1b
gunzip img.111.gz | dd of=/dev/hdb seek=40000000 count=4000000 bs=1b
DISKCMP.EXE LX-20 Cadfael 80 F5 81 F8 /new_log /comment JRL
DISKHASH.EXE LX-20 Cadfael 80 /comment JRL (F5) /new_log /after
```

Log files & location:	test-archive/dd/gnu-4.0.36/LX-20
Expected Results:	src compares equal to dst Source disk unchanged
Actual Results:	src compares equal to dst Source disk is unchanged
Log File Highlights:	Sectors Compared 40188960 Sectors Differ 0 Diffs range Hash after test: 83A0002816BBF089F8BE33C41C92C3B5A0F42A54
Analysis:	Expected results achieved

Product Name:	dd (GNU fileutils) 4.0.36
Test ID:	**DI(Linux)-21**
Case Summary:	Create an image from a LINUX IDE source disk to a LINUX IDE destination disk where the source disk is larger than the destination
Tester Name:	JRL
Test Date:	Fri Aug 17 16:37:30 2001
PC:	Cadfael
Disks:	Source: DOS Drive 80 Physical Label F5 Linux device hda Destination: DOS Drive 81 Physical Label A6 Linux device hdb Boot/Image media: Physical Label CD F5 is an IBM-DTLA-307020 40188960 Sectors, IDE A6 is a WDC WD200BB-00AUA1 39102336 Sectors, IDE CD is a SEAGATE ST336705LC 71687370 Sectors, SCSI Jaz disk with Support software, scripts PC DOS 6.3 Boot floppy
Test Software:	diskcmp.cpp Version 2.8 Created 07/10/01 at 11:22:13 diskhash.cpp Version 2.8 Created 07/10/01 at 11:22:14 diskwipe.cpp Version 2.8 Created 07/10/01 at 11:22:14 partab.cpp Version 2.7 Created 07/20/01 at 09:01:49 zbios.cpp Version 2.9 created 07/10/01 at 11:19:55 zbios.h Version 2.6 Created 07/10/01 at 11:19:56
Scripts:	pre-21 Cadfael JRL F5 A6 CD run_dd hda hdb image LX-21 post-21 Cadfael JRL F5 A6
Source disk setup:	Dual boot Linux/Windows Me with EXT2 & Fat16 Disk: F5 Host: Cadfael Operator: JRL OS: WindowsMe/Linux Date: Sat Aug 11 11:13:43 2001 DISKWIPE.EXE F5_SRC Cadfael 80 F5 /src pqmagic /cmd=fat-src.txt Load Operating System to Source disk DISKHASH.EXE F5_SRC Cadfael 80 /before

	Disk hash = 83A0002816BBF089F8BE33C41C92C3B5A0F42A54 N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 001236942 0000/001/01 0076/254/63 Boot 06 Fat16 2 X 002249100 007181055 0140/000/01 0586/254/63 05 extended 3 S 000000063 000208782 0140/001/01 0152/254/63 83 Linux 4 x 000208845 000144585 0153/000/01 0161/254/63 05 extended 5 S 000000063 000144522 0153/001/01 0161/254/63 06 Fat16 6 x 004450005 000192780 0417/000/01 0428/254/63 05 extended 7 S 000000063 000192717 0417/001/01 0428/254/63 16 other 9 P 009430155 006152895 0587/000/01 0969/254/63 83 Linux 10 P 039760875 000417690 1023/000/01 1023/254/63 82 Linux swap
Destination Setup:	DISKWIPE.EXE LX-21 Cadfael 81 A6 /noask /dst /new_log /comment JRL
Execute:	PARTAB.EXE LX-21 Cadfael 80 /all /new_log /comment JRL(F5) PARTAB.EXE LX-21 Cadfael 81 /all /new_log /comment JRL(A6) dd if=/dev/hda skip=0 count=4000000 bs=1b | gzip > img.101.gz dd if=/dev/hda skip=4000000 count=4000000 bs=1b | gzip > img.102.gz dd if=/dev/hda skip=8000000 count=4000000 bs=1b | gzip > img.103.gz dd if=/dev/hda skip=12000000 count=4000000 bs=1b | gzip > img.104.gz dd if=/dev/hda skip=16000000 count=4000000 bs=1b | gzip > img.105.gz dd if=/dev/hda skip=20000000 count=4000000 bs=1b | gzip > img.106.gz dd if=/dev/hda skip=24000000 count=4000000 bs=1b | gzip > img.107.gz dd if=/dev/hda skip=28000000 count=4000000 bs=1b | gzip > img.108.gz dd if=/dev/hda skip=32000000 count=4000000 bs=1b | gzip > img.109.gz dd if=/dev/hda skip=36000000 count=4000000 bs=1b | gzip > img.110.gz gunzip img.101.gz | dd of=/dev/hdb seek=0 count=4000000 bs=1b gunzip img.102.gz | dd of=/dev/hdb seek=4000000 count=4000000 bs=1b gunzip img.103.gz | dd of=/dev/hdb seek=8000000 count=4000000 bs=1b gunzip img.104.gz | dd of=/dev/hdb seek=12000000 count=4000000 bs=1b gunzip img.105.gz | dd of=/dev/hdb seek=16000000 count=4000000 bs=1b gunzip img.106.gz | dd of=/dev/hdb seek=20000000 count=4000000 bs=1b gunzip img.107.gz | dd of=/dev/hdb seek=24000000 count=4000000 bs=1b gunzip img.108.gz | dd of=/dev/hdb seek=28000000 count=4000000 bs=1b gunzip img.109.gz | dd of=/dev/hdb seek=32000000 count=4000000 bs=1b gunzip img.110.gz | dd of=/dev/hdb seek=36000000 count=4000000 bs=1b DISKCMP.EXE LX-21 Cadfael 80 F5 81 A6 /new_log /comment JRL DISKHASH.EXE LX-21 Cadfael 80 /comment JRL (F5) /new_log /after
Log files & location:	test-archive/dd/gnu-4.0.36/LX-21
Expected Results:	src compares qualified equal to dst, src is truncated on dst truncation is logged Source disk unchanged
Actual Results:	src compares qualified equal to dst, src is truncated on dst truncation is logged Source disk is unchanged
Log File Highlights:	Sectors Compared 39102336 Sectors Differ 0 Diffs range Source (40188960) has 1086624 more sectors than destination (39102336) Hash after test: 83A0002816BBF089F8BE33C41C92C3B5A0F42A54 dd: writing /dev/hdb: No space left on device
Analysis:	Expected results achieved

Product Name:	dd (GNU fileutils) 4.0.36
Test ID:	**DI(Linux)-23**
Case Summary:	Create an image from a LINUX IDE source disk to a LINUX IDE destination disk and the source contains a LINUX partition where the source disk is smaller than the destination
Tester Name:	JRL
Test Date:	Tue Dec 18 13:24:55 2001
PC:	Cadfael
Disks:	Source: DOS Drive 80 Physical Label F5 Linux device hda3 Destination: DOS Drive 81 Physical Label A5 Linux device hdb1

	Boot/Image media: Physical Label CE F5 is an IBM-DTLA-307020 40188960 Sectors, IDE A5 is a WDC WD200BB-00AUA1 39102336 Sectors, IDE CE is a SEAGATE ST336705LC 71687370 Sectors, SCSI Jaz disk with Support software, scripts PC DOS 6.3 Boot floppy
Test Software:	diskhash.cpp Version 2.8 Created 07/10/01 at 11:22:14 diskwipe.cpp Version 2.8 Created 07/10/01 at 11:22:14 partab.cpp Version 2.7 Created 07/20/01 at 09:01:49 partcmp.cpp Version 2.5 Created 07/11/01 at 22:02:11 sechash.cpp Version 1.1 created 12/18/01 at 13:51:30 zbios.cpp Version 2.9 created 07/10/01 at 11:19:55 zbios.h Version 2.6 Created 07/10/01 at 11:19:56
Scripts:	pre-23 Cadfael JRL F5 A5 CE run_dd hda3 hdb1 image LX-23 post-23 Cadfael JRL F5 A5
Source disk setup:	Dual boot Linux/Windows Me with EXT2 & Fat16 Disk: F5 Host: Cadfael Operator: JRL OS: WindowsMe/Linux Date: Sat Aug 11 11:13:43 2001 DISKWIPE.EXE F5_SRC Cadfael 80 F5 /src pqmagic /cmd=fat-src.txt Load Operating System to Source disk DISKHASH.EXE F5_SRC Cadfael 80 /before Disk hash = 83A0002816BBF089F8BE33C41C92C3B5A0F42A54 N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 001236942 0000/001/01 0076/254/63 Boot 06 Fat16 2 X 002249100 007181055 0140/000/01 0586/254/63 05 extended 3 S 000000063 000208782 0140/001/01 0152/254/63 83 Linux 4 x 000208845 000144585 0153/000/01 0161/254/63 05 extended 5 S 000000063 000144522 0153/001/01 0161/254/63 06 Fat16 6 x 004450005 000192780 0417/000/01 0428/254/63 05 extended 7 S 000000063 000192717 0417/001/01 0428/254/63 16 other 9 P 009430155 006152895 0587/000/01 0969/254/63 83 Linux 10 P 039760875 000417690 1023/000/01 1023/254/63 82 Linux swap
Destination Setup:	DISKWIPE.EXE LX-23 Cadfael 81 A5 /noask /dst /new_log /comment JRL X:\PM\PQMAGIC /cmd=X:\PM\LX-SS-2.txt N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 006361677 0000/001/01 0395/254/63 83 Linux
Execute:	x:\ss\PARTAB.EXE LX-23 Cadfael 80 /all /new_log /comment JRL(F5) PARTAB.EXE LX-23 Cadfael 81 /all /new_log /comment JRL(A5) dd if=/dev/hda3 skip=0 count=1000000 bs=1b | gzip > img.101.gz dd if=/dev/hda3 skip=1000000 count=1000000 bs=1b | gzip > img.102.gz dd if=/dev/hda3 skip=2000000 count=1000000 bs=1b | gzip > img.103.gz dd if=/dev/hda3 skip=3000000 count=1000000 bs=1b | gzip > img.104.gz dd if=/dev/hda3 skip=4000000 count=1000000 bs=1b | gzip > img.105.gz dd if=/dev/hda3 skip=5000000 count=1000000 bs=1b | gzip > img.106.gz dd if=/dev/hda3 skip=6000000 count=1000000 bs=1b | gzip > img.107.gz gunzip img.101.gz | dd of=/dev/hdb1 seek=0 count=1000000 bs=1b gunzip img.102.gz | dd of=/dev/hdb1 seek=1000000 count=1000000 bs=1b gunzip img.103.gz | dd of=/dev/hdb1 seek=2000000 count=1000000 bs=1b gunzip img.104.gz | dd of=/dev/hdb1 seek=3000000 count=1000000 bs=1b gunzip img.105.gz | dd of=/dev/hdb1 seek=4000000 count=1000000 bs=1b gunzip img.106.gz | dd of=/dev/hdb1 seek=5000000 count=1000000 bs=1b gunzip img.107.gz | dd of=/dev/hdb1 seek=6000000 count=1000000 bs=1b PARTCMP.EXE LX-23 Cadfael 80 F5 81 A5 /new_log /comment JRL /select 9 1 DISKHASH.EXE LX-23 Cadfael 80 /comment JRL (F5) /new_log /after
Log files & location:	test-archive/dd/gnu-4.0.36/LX-23
Expected Results:	src compares qualified equal to dst

	Source disk unchanged
Actual Results:	src compares qualified equal to dst except for 1 sector not copied to destination Source disk is unchanged
Log File Highlights:	Sectors Compared 6152895 Sectors Differ 1 Diffs range: 6152894 Source (6152895) has 208782 fewer sectors than destination (6361677) Zero fill: 6694 Src Byte fill (F5): 0 Dst Byte fill (A5): 201710 Other fill: 14 Other no fill: 364 Hash after test: 83A0002816BBF089F8BE33C41C92C3B5A0F42A54
Analysis:	Expected results not achieved.

Product Name:	dd (GNU fileutils) 4.0.36
Test ID:	**DI(Linux)-27**
Case Summary:	Create an image from a LINUX IDE source disk to a LINUX IDE destination disk and the source contains a FAT32 partition where the source disk is the same size as the destination
Tester Name:	JRL
Test Date:	Tue Oct 23 08:31:25 2001
PC:	Wimsey
Disks:	Source: DOS Drive 80 Physical Label F6 Linux device hda1 Destination: DOS Drive 81 Physical Label A6 Linux device hdb1 Boot/Image media: Physical Label CD F6 is an IBM-DTLA-307020 40188960 Sectors, IDE A6 is a WDC WD200BB-00AUA1 39102336 Sectors, IDE CD is a SEAGATE ST336705LC 71687370 Sectors, SCSI Jaz disk with Support software, scripts PC DOS 6.3 Boot floppy
Test Software:	diskhash.cpp Version 2.8 Created 07/10/01 at 11:22:14 diskwipe.cpp Version 2.8 Created 07/10/01 at 11:22:14 partab.cpp Version 2.7 Created 07/20/01 at 09:01:49 partcmp.cpp Version 2.5 Created 07/11/01 at 22:02:11 zbios.cpp Version 2.9 created 07/10/01 at 11:19:55 zbios.h Version 2.6 Created 07/10/01 at 11:19:56
Scripts:	pre-27 Wimsey JRL F6 A6 CD run_dd hda1 hdb1 image LX-27 post-27 Wimsey JRL F6 A6
Source disk setup:	Windows 2000 with NTFS & Fat32 Disk: F6 Host: Wimsey Operator: JRL OS: Windows 2000 Date: Sat Jul 21 15:53:12 2001 DISKWIPE.EXE F6_SRC Wimsey 80 F6 /src /new_log /noask /comment Windows 2000/NT source pqmagic /cmd=nt-src.txt Load Operating System to Source disk DISKHASH.EXE LX-27 Morse 80 /before Disk hash = 8034683D5D55BA51409AC7B5CB0845CA2CF6B235 N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 006152832 0000/001/01 0382/254/63 Boot 0B Fat32 2 X 008193150 031985415 0510/000/01 1023/254/63 0F extended 4 x 002056320 001237005 0638/000/01 0714/254/63 05 extended 5 S 000000063 001236942 0638/001/01 0714/254/63 07 NTFS 6 x 005349645 001638630 0843/000/01 0944/254/63 05 extended 7 S 000000063 001638567 0843/001/01 0944/254/63 17 other 8 x 030748410 001237005 1023/000/01 1023/254/63 05 extended

	9 S 000000063 001236942 1023/001/01 1023/254/63 1B other
Destination Setup:	DISKWIPE.EXE LX-27 Wimsey 80 A6 /noask /dst /new_log /comment JRL X:\PM\PQMAGIC /cmd=X:\PM\F32-ES-2.txt N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 006152832 0000/001/01 0382/254/63 0B Fat32
Execute:	PARTAB.EXE LX-27 Wimsey 80 /all /new_log /comment JRL(F6) PARTAB.EXE LX-27 Wimsey 81 /all /new_log /comment JRL(A6) dd if=/dev/hda1 skip=0 count=1000000 bs=1b | gzip > img.101.gz dd if=/dev/hda1 skip=1000000 count=1000000 bs=1b | gzip > img.102.gz dd if=/dev/hda1 skip=2000000 count=1000000 bs=1b | gzip > img.103.gz dd if=/dev/hda1 skip=3000000 count=1000000 bs=1b | gzip > img.104.gz dd if=/dev/hda1 skip=4000000 count=1000000 bs=1b | gzip > img.105.gz dd if=/dev/hda1 skip=5000000 count=1000000 bs=1b | gzip > img.106.gz dd if=/dev/hda1 skip=6000000 count=1000000 bs=1b | gzip > img.107.gz gunzip img.101.gz | dd of=/dev/hdb1 seek=0 count=1000000 bs=1b gunzip img.102.gz | dd of=/dev/hdb1 seek=1000000 count=1000000 bs=1b gunzip img.103.gz | dd of=/dev/hdb1 seek=2000000 count=1000000 bs=1b gunzip img.104.gz | dd of=/dev/hdb1 seek=3000000 count=1000000 bs=1b gunzip img.105.gz | dd of=/dev/hdb1 seek=4000000 count=1000000 bs=1b gunzip img.106.gz | dd of=/dev/hdb1 seek=5000000 count=1000000 bs=1b gunzip img.107.gz | dd of=/dev/hdb1 seek=6000000 count=1000000 bs=1b PARTCMP.EXE LX-27 Wimsey 80 F6 81 A6 /new_log /comment JRL /select 1 1 DISKHASH.EXE LX-27 Wimsey 80 /comment JRL (F6) /new_log /after
Log files & location:	test-archive/dd/gnu-4.0.36/LX-27
Expected Results:	src compares equal to dst Source disk unchanged
Actual Results:	src compares equal to dst Source disk is unchanged
Log File Highlights:	Sectors Compared 6152832 Sectors Differ 0 Diffs range: Hash after test: 8034683D5D55BA51409AC7B5CB0845CA2CF6B235
Analysis:	Expected results achieved

Product Name:	dd (GNU fileutils) 4.0.36
Test ID:	**DI(Linux)-30**
Case Summary:	Create an image from a LINUX IDE source disk to a LINUX IDE destination disk and the source contains a FAT32 partition where the source disk is larger than the destination
Tester Name:	JRL
Test Date:	Tue Oct 23 14:06:13 2001
PC:	Wimsey
Disks:	Source: DOS Drive 80 Physical Label F6 Linux device hda1 Destination: DOS Drive 81 Physical Label A6 Linux device hdb1 Boot/Image media: Physical Label CD F6 is an IBM-DTLA-307020 40188960 Sectors, IDE A6 is a WDC WD200BB-00AUA1 39102336 Sectors, IDE CD is a SEAGATE ST336705LC 71687370 Sectors, SCSI Jaz disk with Support software, scripts PC DOS 6.3 Boot floppy
Test Software:	diskhash.cpp Version 2.8 Created 07/10/01 at 11:22:14 diskwipe.cpp Version 2.8 Created 07/10/01 at 11:22:14 partab.cpp Version 2.7 Created 07/20/01 at 09:01:49 partcmp.cpp Version 2.5 Created 07/11/01 at 22:02:11 zbios.cpp Version 2.9 created 07/10/01 at 11:19:55 zbios.h Version 2.6 Created 07/10/01 at 11:19:56
Scripts:	pre-30 Wimsey JRL F6 A6 CD run_dd hda1 hdb1 image LX-30

	post-30 Wimsey JRL F6 A6
Source disk setup:	Windows 2000 with NTFS & Fat32 Disk: F6 Host: Wimsey Operator: JRL OS: Windows 2000 Date: Sat Jul 21 15:53:12 2001 DISKWIPE.EXE F6_SRC Wimsey 80 F6 /src /new_log /noask /comment Windows 2000/NT source pqmagic /cmd=nt-src.txt Load Operating System to Source disk DISKHASH.EXE LX-27 Morse 80 /before Disk hash = 8034683D5D55BA51409AC7B5CB0845CA2CF6B235 N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 006152832 0000/001/01 0382/254/63 Boot 0B Fat32 2 X 008193150 031985415 0510/000/01 1023/254/63 0F extended 4 x 002056320 001237005 0638/000/01 0714/254/63 05 extended 5 S 000000063 001236942 0638/001/01 0714/254/63 07 NTFS 6 x 005349645 001638630 0843/000/01 0944/254/63 05 extended 7 S 000000063 001638567 0843/001/01 0944/254/63 17 other 8 x 030748410 001237005 1023/000/01 1023/254/63 05 extended 9 S 000000063 001236942 1023/001/01 1023/254/63 1B other
Destination Setup:	DISKWIPE.EXE LX-30 Wimsey 80 A6 /noask /dst /new_log /comment JRL X:\PM\PQMAGIC /cmd=X:\PM\F32-BS-2.txt N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 005943987 0000/001/01 0369/254/63 0B Fat32
Execute:	PARTAB.EXE LX-30 Wimsey 80 /all /new_log /comment JRL(F6) PARTAB.EXE LX-30 Wimsey 81 /all /new_log /comment JRL(A6) dd if=/dev/hda1 skip=0 count=1000000 bs=1b | gzip > img.101.gz dd if=/dev/hda1 skip=1000000 count=1000000 bs=1b | gzip > img.102.gz dd if=/dev/hda1 skip=2000000 count=1000000 bs=1b | gzip > img.103.gz dd if=/dev/hda1 skip=3000000 count=1000000 bs=1b | gzip > img.104.gz dd if=/dev/hda1 skip=4000000 count=1000000 bs=1b | gzip > img.105.gz dd if=/dev/hda1 skip=5000000 count=1000000 bs=1b | gzip > img.106.gz gunzip img.101.gz | dd of=/dev/hdb1 seek=0 count=1000000 bs=1b gunzip img.102.gz | dd of=/dev/hdb1 seek=1000000 count=1000000 bs=1b gunzip img.103.gz | dd of=/dev/hdb1 seek=2000000 count=1000000 bs=1b gunzip img.104.gz | dd of=/dev/hdb1 seek=3000000 count=1000000 bs=1b gunzip img.105.gz | dd of=/dev/hdb1 seek=4000000 count=1000000 bs=1b gunzip img.106.gz | dd of=/dev/hdb1 seek=5000000 count=1000000 bs=1b PARTCMP.EXE LX-30 Wimsey 80 F6 81 A6 /new_log /comment JRL /select 1 1 DISKHASH.EXE LX-30 Wimsey 80 /comment JRL (F6) /new_log /after
Log files & location:	test-archive/dd/gnu-4.0.36/LX-30
Expected Results:	src compares qualified equal to dst, src is truncated on dst truncation is logged Source disk unchanged
Actual Results:	src compares qualified equal to dst, src is truncated on dst truncation is logged except for 1 sector not copied to destination Source disk is unchanged
Log File Highlights:	Sectors Compared 5943987 Sectors Differ 1 Diffs range: 5943986 Source (6152832) has 208845 more sectors than destination (5943987) Hash after test: 8034683D5D55BA51409AC7B5CB0845CA2CF6B235 dd: writing /dev/hdb1: No space left on device
Analysis:	Expected results not achieved.

Product Name:	dd (GNU fileutils) 4.0.36
Test ID:	**DI(Linux)-33**
Case Summary:	Create an image from a LINUX SCSI source disk

	to a LINUX SCSI destination disk where the source disk is smaller than the destination
Tester Name:	JRL
Test Date:	Mon Aug 13 10:52:27 2001
PC:	Rumpole
Disks:	Source: DOS Drive 80 Physical Label E3 Linux device sda Destination: DOS Drive 81 Physical Label E6 Linux device sdb Boot/Image media: Physical Label AD E3 is a QUANTUM ATLAS10K2-TY092J 17938985 Sectors, SCSI E6 is a SEAGATE ST318404LC 35843670 Sectors, SCSI AD is a Maxtor53073H4 60030432 Sectors, IDE Jaz disk with Support software, scripts PC DOS 6.3 Boot floppy
Test Software:	diskcmp.cpp Version 2.8 Created 07/10/01 at 11:22:13 diskhash.cpp Version 2.8 Created 07/10/01 at 11:22:14 diskwipe.cpp Version 2.8 Created 07/10/01 at 11:22:14 partab.cpp Version 2.7 Created 07/20/01 at 09:01:49 zbios.cpp Version 2.9 created 07/10/01 at 11:19:55 zbios.h Version 2.6 Created 07/10/01 at 11:19:56
Scripts:	pre-33 Rumpole JRL E3 E6 AD run_dd sda sdb image LX-33 post-33 Rumpole JRL E3 E6
Source disk setup:	Dual boot Linux/Windows Me with EXT2 & Fat16 Disk: E3 Host: Cadfael Operator: JRL OS: Linux Red Hat 7.1/Windows Me Date: Sat Jul 21 16:17:29 2001 DISKWIPE.EXE E3_SRC Rumpole 80 E3 /src /new_log pqmagic /cmd=fat-src.txt Load Operating System to Source disk DISKHASH.EXE E3_SRC Rumpole 80 /before Disk hash = 0F9DACDA6C63D197C048782003D324108CEC7AB0 N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 001236942 0000/001/01 0076/254/63 Boot 06 Fat16 2 X 002249100 007181055 0140/000/01 0586/254/63 05 extended 3 S 000000063 000208782 0140/001/01 0152/254/63 83 Linux 4 x 000208845 000144585 0153/000/01 0161/254/63 05 extended 5 S 000000063 000144522 0153/001/01 0161/254/63 06 Fat16 6 x 004450005 000192780 0417/000/01 0428/254/63 05 extended 7 S 000000063 000192717 0417/001/01 0428/254/63 16 other 9 P 009430155 006152895 0587/000/01 0969/254/63 83 Linux 10 P 017510850 000417690 1023/000/01 1023/254/63 82 Linux swap
Destination Setup:	DISKWIPE.EXE LX-33 Rumpole 81 E6 /noask /dst /new_log /comment JRL
Execute:	PARTAB.EXE LX-33 Rumpole 80 /all /new_log /comment JRL(E3) PARTAB.EXE LX-33 Rumpole 81 /all /new_log /comment JRL(E6) dd if=/dev/sda skip=0 count=4000000 bs=1b | gzip > img.101.gz dd if=/dev/sda skip=4000000 count=4000000 bs=1b | gzip > img.102.gz dd if=/dev/sda skip=8000000 count=4000000 bs=1b | gzip > img.103.gz dd if=/dev/sda skip=12000000 count=4000000 bs=1b | gzip > img.104.gz dd if=/dev/sda skip=16000000 count=4000000 bs=1b | gzip > img.105.gz gunzip img.101.gz | dd of=/dev/sdb seek=0 count=4000000 bs=1b gunzip img.102.gz | dd of=/dev/sdb seek=4000000 count=4000000 bs=1b gunzip img.103.gz | dd of=/dev/sdb seek=8000000 count=4000000 bs=1b gunzip img.104.gz | dd of=/dev/sdb seek=12000000 count=4000000 bs=1b gunzip img.105.gz | dd of=/dev/sdb seek=16000000 count=4000000 bs=1b DISKCMP.EXE LX-33 Rumpole 80 E3 81 E6 /new_log /comment JRL DISKHASH.EXE LX-33 Rumpole 80 /comment JRL (E3) /new_log /after
Log files & location:	test-archive/dd/gnu-4.0.36/LX-33
Expected	src compares qualified equal to dst

Results:	Source disk unchanged
Actual Results:	src compares qualified equal to dst except for 1 sector not copied to destination Source disk is unchanged
Log File Highlights:	Sectors Compared 17938985 Sectors Differ 1 Diffs range 17938984 Source (17938985) has 17904685 fewer sectors than destination (35843670) Zero fill: 0 Src Byte fill (E3): 0 Dst Byte fill (E6): 17904685 Other fill: 0 Other no fill: 0 Hash after test: 0F9DACDA6C63D197C048782003D324108CEC7AB0
Analysis:	Expected results not achieved.

Product Name:	dd (GNU fileutils) 4.0.36
Test ID:	**DI(Linux)-35**
Case Summary:	Create an image from a LINUX SCSI source disk to a LINUX SCSI destination disk where the source disk is the same size as the destination
Tester Name:	JRL
Test Date:	Fri Aug 10 15:38:10 2001
PC:	Rumpole
Disks:	Source: DOS Drive 80 Physical Label E3 Linux device sda Destination: DOS Drive 81 Physical Label E0 Linux device sdb Boot/Image media: Physical Label AD E3 is a QUANTUM ATLAS10K2-TY092J 17938985 Sectors, SCSI E0 is a QUANTUM ATLAS10K2-TY092J 17938985 Sectors, SCSI AD is a Maxtor53073H4 60030432 Sectors, IDE Jaz disk with Support software, scripts PC DOS 6.3 Boot floppy
Test Software:	diskcmp.cpp Version 2.8 Created 07/10/01 at 11:22:13 diskhash.cpp Version 2.8 Created 07/10/01 at 11:22:14 diskwipe.cpp Version 2.8 Created 07/10/01 at 11:22:14 partab.cpp Version 2.7 Created 07/20/01 at 09:01:49 seccmp.cpp Version 1.4 Created 07/10/01 at 11:22:15 zbios.cpp Version 2.9 created 07/10/01 at 11:19:55 zbios.h Version 2.6 Created 07/10/01 at 11:19:56
Scripts:	pre-35 Rumpole JRL E3 E0 AD run_dd sda sdb image LX-35 post-35 Rumpole JRL E3 E0
Source disk setup:	Dual boot Linux/Windows Me with EXT2 & Fat16 Disk: E3 Host: Cadfael Operator: JRL OS: Linux Red Hat 7.1/Windows Me Date: Sat Jul 21 16:17:29 2001 DISKWIPE.EXE E3_SRC Rumpole 80 E3 /src /new_log pqmagic /cmd=fat-src.txt Load Operating System to Source disk DISKHASH.EXE E3_SRC Rumpole 80 /before Disk hash = 0F9DACDA6C63D197C048782003D324108CEC7AB0 N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 001236942 0000/001/01 0076/254/63 Boot 06 Fat16 2 X 002249100 007181055 0140/000/01 0586/254/63 05 extended 3 S 000000063 000208782 0140/001/01 0152/254/63 83 Linux 4 x 000208845 000144585 0153/000/01 0161/254/63 05 extended 5 S 000000063 000144522 0153/001/01 0161/254/63 06 Fat16 6 x 004450005 000192780 0417/000/01 0428/254/63 05 extended 7 S 000000063 000192717 0417/001/01 0428/254/63 16 other

	9 P 009430155 006152895 0587/000/01 0969/254/63 83 Linux
	10 P 017510850 000417690 1023/000/01 1023/254/63 82 Linux swap
Destination Setup:	DISKWIPE.EXE LX-35 Rumpole 81 E0 /noask /dst /new_log /comment JRL
Execute:	PARTAB.EXE LX-35 Rumpole 80 /all /new_log /comment JRL(E3) PARTAB.EXE LX-35 Rumpole 81 /all /new_log /comment JRL(E0) dd if=/dev/sda skip=0 count=4000000 bs=1b | gzip > img.101.gz dd if=/dev/sda skip=4000000 count=4000000 bs=1b | gzip > img.102.gz dd if=/dev/sda skip=8000000 count=4000000 bs=1b | gzip > img.103.gz dd if=/dev/sda skip=12000000 count=4000000 bs=1b | gzip > img.104.gz dd if=/dev/sda skip=16000000 count=4000000 bs=1b | gzip > img.105.gz gunzip img.101.gz | dd of=/dev/sdb seek=0 count=4000000 bs=1b gunzip img.102.gz | dd of=/dev/sdb seek=4000000 count=4000000 bs=1b gunzip img.103.gz | dd of=/dev/sdb seek=8000000 count=4000000 bs=1b gunzip img.104.gz | dd of=/dev/sdb seek=12000000 count=4000000 bs=1b gunzip img.105.gz | dd of=/dev/sdb seek=16000000 count=4000000 bs=1b DISKCMP.EXE LX-35 Rumpole 80 E3 81 E0 /new_log /comment JRL DISKHASH.EXE LX-35 Rumpole 80 /comment JRL (E3) /new_log /after
Log files & location:	test-archive/dd/gnu-4.0.36/LX-35
Expected Results:	src compares equal to dst Source disk unchanged
Actual Results:	src compares equal to dst except for 1 sector not copied to destination Source disk is unchanged
Log File Highlights:	Sectors Compared 17938985 Sectors Differ 1 Diffs range 17938984 Hash after test: 0F9DACDA6C63D197C048782003D324108CEC7AB0
Analysis:	Expected results not achieved.

Product Name:	dd (GNU fileutils) 4.0.36
Test ID:	**DI(Linux)-36**
Case Summary:	Create an image from a LINUX SCSI source disk to a LINUX SCSI destination disk where the source disk is larger than the destination
Tester Name:	JRL
Test Date:	Mon Aug 13 13:41:56 2001
PC:	Wimsey
Disks:	Source: DOS Drive 80 Physical Label E4 Linux device sda Destination: DOS Drive 81 Physical Label EA Linux device sdb Boot/Image media: Physical Label AE E4 is a QUANTUM ATLAS10K2-TY092J 17938985 Sectors, SCSI EA is a SEAGATE ST39204LC 17921835 Sectors, SCSI AE is a Maxtor53073H4 60030432 Sectors, IDE Jaz disk with Support software, scripts PC DOS 6.3 Boot floppy
Test Software:	diskcmp.cpp Version 2.8 Created 07/10/01 at 11:22:13 diskhash.cpp Version 2.8 Created 07/10/01 at 11:22:14 diskwipe.cpp Version 2.8 Created 07/10/01 at 11:22:14 partab.cpp Version 2.7 Created 07/20/01 at 09:01:49 zbios.cpp Version 2.9 created 07/10/01 at 11:19:55 zbios.h Version 2.6 Created 07/10/01 at 11:19:56
Scripts:	pre-36 Wimsey JRL E4 EA AE run_dd sda sdb image LX-36 post-36 Wimsey JRL E4 EA
Source disk setup:	Windows 2000 with NTFS & Fat32 Disk: E4 Host: JudgeDee Operator: JRL

```
                    OS: Windows 2000/NT
                    Date: Sat Jul 21 16:58:28 2001

                    DISKWIPE.EXE E4_SRC JudgeDee 80 E4 /src /noask /comment Windows 2000
                    source disk
                    pqmagic /cmd=nt-src.txt
                    Load Operating System to Source disk
                    cmd: X:\ss\DISKHASH.EXE Hash Wimsey 80 /comment E4 /new_log /before

                    Disk hash = 25BF8AF6B2D3E0BD1909C96E368DB27F51C49CBF
                     N  Start LBA Length  Start C/H/S End C/H/S  boot Partition type
                     1 P 000000063 006152832 0000/001/01 0382/254/63 Boot 0B Fat32
                     2 X 008193150 009735390 0510/000/01 1023/254/63   0F extended
                     4 x 002056320 001237005 0638/000/01 0714/254/63   05 extended
                     5 S 000000063 001236942 0638/001/01 0714/254/63   07 NTFS
                     6 x 005349645 001638630 0843/000/01 0944/254/63   05 extended
                     7 S 000000063 001638567 0843/001/01 0944/254/63   17 other
                     8 x 008498385 001237005 1023/000/01 1023/254/63   05 extended
                     9 S 000000063 001236942 1023/001/01 1023/254/63   1B other
```
```
| Destination    | DISKWIPE.EXE LX-36 Wimsey 81 EA /noask /dst /new_log /comment JRL |
| Setup:         |                                                                  |
```

Destination Setup:	DISKWIPE.EXE LX-36 Wimsey 81 EA /noask /dst /new_log /comment JRL
Execute:	PARTAB.EXE LX-36 Wimsey 80 /all /new_log /comment JRL(E4) PARTAB.EXE LX-36 Wimsey 81 /all /new_log /comment JRL(EA) dd if=/dev/sda skip=0 count=4000000 bs=1b | gzip > img.101.gz dd if=/dev/sda skip=4000000 count=4000000 bs=1b | gzip > img.102.gz dd if=/dev/sda skip=8000000 count=4000000 bs=1b | gzip > img.103.gz dd if=/dev/sda skip=12000000 count=4000000 bs=1b | gzip > img.104.gz dd if=/dev/sda skip=16000000 count=4000000 bs=1b | gzip > img.105.gz gunzip img.101.gz | dd of=/dev/sdb seek=0 count=4000000 bs=1b gunzip img.102.gz | dd of=/dev/sdb seek=4000000 count=4000000 bs=1b gunzip img.103.gz | dd of=/dev/sdb seek=8000000 count=4000000 bs=1b gunzip img.104.gz | dd of=/dev/sdb seek=12000000 count=4000000 bs=1b gunzip img.105.gz | dd of=/dev/sdb seek=16000000 count=4000000 bs=1b DISKCMP.EXE LX-36 Wimsey 80 E4 81 EA /new_log /comment JRL DISKHASH.EXE LX-36 Wimsey 80 /comment JRL (E4) /new_log /after
Log files & location:	test-archive/dd/gnu-4.0.36/LX-36
Expected Results:	src compares qualified equal to dst, src is truncated on dst truncation is logged Source disk unchanged
Actual Results:	src compares qualified equal to dst, src is truncated on dst truncation is logged except for 1 sector not copied to destination Source disk is unchanged
Log File Highlights:	Sectors Compared 17921835 Sectors Differ 1 Diffs range 17921834 Source (17938985) has 17150 more sectors than destination (17921835) Hash after test: 25BF8AF6B2D3E0BD1909C96E368DB27F51C49CBF dd: writing /dev/sdb: No space left on device
Analysis:	Expected results not achieved.

Product Name:	dd (GNU fileutils) 4.0.36
Test ID:	**DI(Linux)-38**
Case Summary:	Create an image from a LINUX SCSI source disk to a LINUX SCSI destination disk and the source contains a NTFS partition where the source disk is smaller than the destination
Tester Name:	JRL
Test Date:	Thu Jan 03 10:03:43 2002
PC:	Cadfael
Disks:	Source: DOS Drive 80 Physical Label E4 Linux device sda5 Destination: DOS Drive 81 Physical Label EB Linux device sdb1 Boot/Image media: Physical Label AE E4 is a QUANTUM ATLAS10K2-TY092J 17938985 Sectors, SCSI

	EB is a SEAGATE ST39204LC 17921835 Sectors, SCSI AE is a Maxtor53073H4 60030432 Sectors, IDE Jaz disk with Support software, scripts PC DOS 6.3 Boot floppy
Test Software:	diskhash.cpp Version 2.8 Created 07/10/01 at 11:22:14 diskwipe.cpp Version 2.8 Created 07/10/01 at 11:22:14 partab.cpp Version 2.7 Created 07/20/01 at 09:01:49 partcmp.cpp Version 2.5 Created 07/11/01 at 22:02:11 sechash.cpp Version 1.1 created 12/18/01 at 13:51:30 zbios.cpp Version 2.9 created 07/10/01 at 11:19:55 zbios.h Version 2.6 Created 07/10/01 at 11:19:56
Scripts:	pre-38 Cadfael JRL E4 EB AE run_dd sda5 sdb1 image LX-38 post-38 Cadfael JRL E4 EB
Source disk setup:	Windows 2000 with NTFS & Fat32 Disk: E4 Host: JudgeDee Operator: JRL OS: Windows 2000/NT Date: Sat Jul 21 16:58:28 2001 DISKWIPE.EXE E4_SRC JudgeDee 80 E4 /src /noask /comment Windows 2000 source disk pqmagic /cmd=nt-src.txt Load Operating System to Source disk cmd: X:\ss\DISKHASH.EXE Hash Wimsey 80 /comment E4 /new_log /before Disk hash = 25BF8AF6B2D3E0BD1909C96E368DB27F51C49CBF N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 006152832 0000/001/01 0382/254/63 Boot 0B Fat32 2 X 008193150 009735390 0510/000/01 1023/254/63 0F extended 4 x 002056320 001237005 0638/000/01 0714/254/63 05 extended 5 S 000000063 001236942 0638/001/01 0714/254/63 07 NTFS 6 x 005349645 001638630 0843/000/01 0944/254/63 05 extended 7 S 000000063 001638567 0843/001/01 0944/254/63 17 other 8 x 008498385 001237005 1023/000/01 1023/254/63 05 extended 9 S 000000063 001236942 1023/001/01 1023/254/63 1B other
Destination Setup:	DISKWIPE.EXE LX-38 Cadfael 81 EB /noask /dst /new_log /comment JRL X:\PM\PQMAGIC /cmd=X:\PM\NT-SS-2.txt N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 001333332 0000/001/01 0082/254/63 07 NTFS
Execute:	PARTAB.EXE LX-38 Cadfael 80 /all /new_log /comment JRL(E4) PARTAB.EXE LX-38 Cadfael 81 /all /new_log /comment JRL(EB) dd if=/dev/sda5 skip=0 count=1000000 bs=1b | gzip > img.101.gz dd if=/dev/sda5 skip=1000000 count=1000000 bs=1b | gzip > img.102.gz gunzip img.101.gz | dd of=/dev/sdb1 seek=0 count=1000000 bs=1b gunzip img.102.gz | dd of=/dev/sdb1 seek=1000000 count=1000000 bs=1b PARTCMP.EXE LX-38 Cadfael 80 E4 81 EB /new_log /comment JRL /select 5 1 DISKHASH.EXE LX-38 Cadfael 80 /comment JRL (E4) /new_log /after
Log files & location:	test-archive/dd/gnu-4.0.36/LX-38
Expected Results:	src compares qualified equal to dst Source disk unchanged
Actual Results:	src compares qualified equal to dst Source disk is unchanged
Log File Highlights:	Sectors Compared 1236942 Sectors Differ 0 Diffs range: Source (1236942) has 96390 fewer sectors than destination (1333332) Zero fill: 0 Src Byte fill (E4): 0 Dst Byte fill (EB): 96389

	Other fill: 0 Other no fill: 1 Hash after test: 25BF8AF6B2D3E0BD1909C96E368DB27F51C49CBF
Analysis:	Expected results achieved

Product Name:	dd (GNU fileutils) 4.0.36
Test ID:	**DI(Linux)-42**
Case Summary:	Create an image from a LINUX SCSI source disk to a LINUX SCSI destination disk and the source contains a LINUX partition where the source disk is the same size as the destination
Tester Name:	JRL
Test Date:	Tue Aug 28 15:55:49 2001
PC:	Rumpole
Disks:	Source: DOS Drive 80 Physical Label E3 Linux device sda3 Destination: DOS Drive 81 Physical Label EA Linux device sdb2 Boot/Image media: Physical Label AD E3 is a QUANTUM ATLAS10K2-TY092J 17938985 Sectors, SCSI EA is a SEAGATE ST39204LC 17921835 Sectors, SCSI AD is a Maxtor53073H4 60030432 Sectors, IDE Jaz disk with Support software, scripts PC DOS 6.3 Boot floppy
Test Software:	diskhash.cpp Version 2.8 Created 07/10/01 at 11:22:14 diskwipe.cpp Version 2.8 Created 07/10/01 at 11:22:14 partab.cpp Version 2.7 Created 07/20/01 at 09:01:49 partcmp.cpp Version 2.5 Created 07/11/01 at 22:02:11 zbios.cpp Version 2.9 created 07/10/01 at 11:19:55 zbios.h Version 2.6 Created 07/10/01 at 11:19:56
Scripts:	pre-42 Rumpole JRL E3 EA AD run_dd sda3 sdb2 image LX-42 post-42 Rumpole JRL E3 EA
Source disk setup:	Dual boot Linux/Windows Me with EXT2 & Fat16 Disk: E3 Host: Cadfael Operator: JRL OS: Linux Red Hat 7.1/Windows Me Date: Sat Jul 21 16:17:29 2001 DISKWIPE.EXE E3_SRC Rumpole 80 E3 /src /new_log pqmagic /cmd=fat-src.txt Load Operating System to Source disk DISKHASH.EXE E3_SRC Rumpole 80 /before Disk hash = 0F9DACDA6C63D197C048782003D324108CEC7AB0 N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 001236942 0000/001/01 0076/254/63 Boot 06 Fat16 2 X 002249100 007181055 0140/000/01 0586/254/63 05 extended 3 S 000000063 000208782 0140/001/01 0152/254/63 83 Linux 4 x 000208845 000144585 0153/000/01 0161/254/63 05 extended 5 S 000000063 000144522 0153/001/01 0161/254/63 06 Fat16 6 x 004450005 000192780 0417/000/01 0428/254/63 05 extended 7 S 000000063 000192717 0417/001/01 0428/254/63 16 other 9 P 009430155 006152895 0587/000/01 0969/254/63 83 Linux 10 P 017510850 000417690 1023/000/01 1023/254/63 82 Linux swap
Destination Setup:	DISKWIPE.EXE LX-42 Rumpole 81 EA /noask /dst /new_log /comment JRL X:\PM\PQMAGIC /cmd=X:\PM\LX-ES-2.txt N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 001236942 0000/001/01 0076/254/63 06 Fat16 2 P 001237005 006152895 0077/000/01 0459/254/63 83 Linux
Execute:	PARTAB.EXE LX-42 Rumpole 80 /all /new_log /comment JRL(E3) PARTAB.EXE LX-42 Rumpole 81 /all /new_log /comment JRL(EA) dd if=/dev/sda3 skip=0 count=1000000 bs=1b | gzip > img.101.gz dd if=/dev/sda3 skip=1000000 count=1000000 bs=1b | gzip > img.102.gz

	dd if=/dev/sda3 skip=2000000 count=1000000 bs=1b | gzip > img.103.gz
	dd if=/dev/sda3 skip=3000000 count=1000000 bs=1b | gzip > img.104.gz
	dd if=/dev/sda3 skip=4000000 count=1000000 bs=1b | gzip > img.105.gz
	dd if=/dev/sda3 skip=5000000 count=1000000 bs=1b | gzip > img.106.gz
	dd if=/dev/sda3 skip=6000000 count=1000000 bs=1b | gzip > img.107.gz
	gunzip img.101.gz | dd of=/dev/sdb2 seek=0 count=1000000 bs=1b
	gunzip img.102.gz | dd of=/dev/sdb2 seek=1000000 count=1000000 bs=1b
	gunzip img.103.gz | dd of=/dev/sdb2 seek=2000000 count=1000000 bs=1b
	gunzip img.104.gz | dd of=/dev/sdb2 seek=3000000 count=1000000 bs=1b
	gunzip img.105.gz | dd of=/dev/sdb2 seek=4000000 count=1000000 bs=1b
	gunzip img.106.gz | dd of=/dev/sdb2 seek=5000000 count=1000000 bs=1b
	gunzip img.107.gz | dd of=/dev/sdb2 seek=6000000 count=1000000 bs=1b
	PARTCMP.EXE LX-42 Rumpole 80 E3 81 EA /new_log /comment JRL /select 9 2
	DISKHASH.EXE LX-42 Rumpole 80 /comment JRL (E3) /new_log /after
Log files & location:	test-archive/dd/gnu-4.0.36/LX-42
Expected Results:	src compares equal to dst Source disk unchanged
Actual Results:	src compares equal to dst except for 1 sector not copied to destination Source disk is unchanged
Log File Highlights:	Sectors Compared 6152895 Sectors Differ 1 Diffs range: 6152894 Hash after test: 0F9DACDA6C63D197C048782003D324108CEC7AB0
Analysis:	Expected results not achieved.

Product Name:	dd (GNU fileutils) 4.0.36
Test ID:	**DI(Linux)-45**
Case Summary:	Create an image from a LINUX SCSI source disk to a LINUX SCSI destination disk and the source contains a FAT16 partition where the source disk is larger than the destination
Tester Name:	JRL
Test Date:	Tue Aug 14 13:18:19 2001
PC:	Rumpole
Disks:	Source: DOS Drive 80 Physical Label E3 Linux device sda1 Destination: DOS Drive 81 Physical Label E0 Linux device sdb1 Boot/Image media: Physical Label AD E3 is a QUANTUM ATLAS10K2-TY092J 17938985 Sectors, SCSI E0 is a QUANTUM ATLAS10K2-TY092J 17938985 Sectors, SCSI AD is a Maxtor53073H4 60030432 Sectors, IDE Jaz disk with Support software, scripts PC DOS 6.3 Boot floppy
Test Software:	diskhash.cpp Version 2.8 Created 07/10/01 at 11:22:14 diskwipe.cpp Version 2.8 Created 07/10/01 at 11:22:14 partab.cpp Version 2.7 Created 07/20/01 at 09:01:49 partcmp.cpp Version 2.5 Created 07/11/01 at 22:02:11 zbios.cpp Version 2.9 created 07/10/01 at 11:19:55 zbios.h Version 2.6 Created 07/10/01 at 11:19:56
Scripts:	pre-45 Rumpole JRL E3 E0 AD run_dd sda1 sdb1 image LX-45 post-45 Rumpole JRL E3 E0
Source disk setup:	Dual boot Linux/Windows Me with EXT2 & Fat16 Disk: E3 Host: Cadfael Operator: JRL OS: Linux Red Hat 7.1/Windows Me Date: Sat Jul 21 16:17:29 2001 DISKWIPE.EXE E3_SRC Rumpole 80 E3 /src /new_log

	pqmagic /cmd=fat-src.txt Load Operating System to Source disk DISKHASH.EXE E3_SRC Rumpole 80 /before Disk hash = 0F9DACDA6C63D197C048782003D324108CEC7AB0 N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 001236942 0000/001/01 0076/254/63 Boot 06 Fat16 2 X 002249100 007181055 0140/000/01 0586/254/63 05 extended 3 S 000000063 000208782 0140/001/01 0152/254/63 83 Linux 4 x 000208845 000144585 0153/000/01 0161/254/63 05 extended 5 S 000000063 000144522 0153/001/01 0161/254/63 06 Fat16 6 x 004450005 000192780 0417/000/01 0428/254/63 05 extended 7 S 000000063 000192717 0417/001/01 0428/254/63 16 other 9 P 009430155 006152895 0587/000/01 0969/254/63 83 Linux 10 P 017510850 000417690 1023/000/01 1023/254/63 82 Linux swap
Destination Setup:	DISKWIPE.EXE LX-45 Rumpole 81 E0 /noask /dst /new_log /comment JRL X:\PM\PQMAGIC /cmd=X:\PM\F16-BS-2.txt N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 001140552 0000/001/01 0070/254/63 06 Fat16
Execute:	PARTAB.EXE LX-45 Rumpole 80 /all /new_log /comment JRL(E3) PARTAB.EXE LX-45 Rumpole 81 /all /new_log /comment JRL(E0) dd if=/dev/sda1 skip=0 count=4000000 bs=1b | gzip > img.101.gz gunzip img.101.gz | dd of=/dev/sdb1 seek=0 count=4000000 bs=1b PARTCMP.EXE LX-45 Rumpole 80 E3 81 E6 /new_log /comment JRL /select 1 1 DISKHASH.EXE LX-45 Rumpole 80 /comment JRL (E3) /new_log /after
Log files & location:	test-archive/dd/gnu-4.0.36/LX-45
Expected Results:	src compares qualified equal to dst, src is truncated on dst truncation is logged Source disk unchanged
Actual Results:	src compares qualified equal to dst, src is truncated on dst truncation is logged Source disk is unchanged
Log File Highlights:	Sectors Compared 1140552 Sectors Differ 0 Diffs range: Source (1236942) has 96390 more sectors than destination (1140552) Hash after test: 0F9DACDA6C63D197C048782003D324108CEC7AB0 dd: writing /dev/sdb1: No space left on device
Analysis:	Expected results achieved

Product Name:	dd (GNU fileutils) 4.0.36
Test ID:	**DI(Linux)-48**
Case Summary:	Create an image from a LINUX IDE source disk to a LINUX SCSI destination disk where the source disk is smaller than the destination
Tester Name:	JRL
Test Date:	Tue Jan 15 10:51:14 2002
PC:	Cadfael
Disks:	Source: DOS Drive 80 Physical Label F5 Linux device hdb Destination: DOS Drive 81 Physical Label CB Linux device sda Boot/Image media: Physical Label AE F5 is an IBM-DTLA-307020 40188960 Sectors, IDE CB is a SEAGATE ST336705LC 71687370 Sectors, SCSI AE is a Maxtor53073H4 60030432 Sectors, IDE Jaz disk with Support software, scripts PC DOS 6.3 Boot floppy
Test Software:	diskcmp.cpp Version 2.8 Created 07/10/01 at 11:22:13 diskhash.cpp Version 2.8 Created 07/10/01 at 11:22:14 diskwipe.cpp Version 2.8 Created 07/10/01 at 11:22:14 partab.cpp Version 2.7 Created 07/20/01 at 09:01:49 zbios.cpp Version 2.9 created 07/10/01 at 11:19:55

	zbios.h Version 2.6 Created 07/10/01 at 11:19:56
Scripts:	pre-48 Cadfael JRL F5 CB AE run_dd hdb sda image LX-48 post-48 Cadfael JRL F5 CB
Source disk setup:	Dual boot Linux/Windows Me with EXT2 & Fat16 Disk: F5 Host: Cadfael Operator: JRL OS: WindowsMe/Linux Date: Sat Aug 11 11:13:43 2001 DISKWIPE.EXE F5_SRC Cadfael 80 F5 /src pqmagic /cmd=fat-src.txt Load Operating System to Source disk DISKHASH.EXE F5_SRC Cadfael 80 /before Disk hash = 83A0002816BBF089F8BE33C41C92C3B5A0F42A54 N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 001236942 0000/001/01 0076/254/63 Boot 06 Fat16 2 X 002249100 007181055 0140/000/01 0586/254/63 05 extended 3 S 000000063 000208782 0140/001/01 0152/254/63 83 Linux 4 x 000208845 000144585 0153/000/01 0161/254/63 05 extended 5 S 000000063 000144522 0153/001/01 0161/254/63 06 Fat16 6 x 004450005 000192780 0417/000/01 0428/254/63 05 extended 7 S 000000063 000192717 0417/001/01 0428/254/63 16 other 9 P 009430155 006152895 0587/000/01 0969/254/63 83 Linux 10 P 039760875 000417690 1023/000/01 1023/254/63 82 Linux swap
Destination Setup:	DISKWIPE.EXE LX-48 Cadfael 81 CB /noask /dst /new_log /comment JRL
Execute:	PARTAB.EXE LX-48 Cadfael 80 /all /new_log /comment JRL(F5) PARTAB.EXE LX-48 Cadfael 81 /all /new_log /comment JRL(CB) dd if=/dev/hdb skip=0 count=1000000 bs=1b | gzip > img.101.gz dd if=/dev/hdb skip=1000000 count=1000000 bs=1b | gzip > img.102.gz dd if=/dev/hdb skip=2000000 count=1000000 bs=1b | gzip > img.103.gz dd if=/dev/hdb skip=3000000 count=1000000 bs=1b | gzip > img.104.gz dd if=/dev/hdb skip=4000000 count=1000000 bs=1b | gzip > img.105.gz dd if=/dev/hdb skip=5000000 count=1000000 bs=1b | gzip > img.106.gz dd if=/dev/hdb skip=6000000 count=1000000 bs=1b | gzip > img.107.gz dd if=/dev/hdb skip=7000000 count=1000000 bs=1b | gzip > img.108.gz dd if=/dev/hdb skip=8000000 count=1000000 bs=1b | gzip > img.109.gz dd if=/dev/hdb skip=9000000 count=1000000 bs=1b | gzip > img.110.gz dd if=/dev/hdb skip=10000000 count=1000000 bs=1b | gzip > img.111.gz dd if=/dev/hdb skip=11000000 count=1000000 bs=1b | gzip > img.112.gz dd if=/dev/hdb skip=12000000 count=1000000 bs=1b | gzip > img.113.gz dd if=/dev/hdb skip=13000000 count=1000000 bs=1b | gzip > img.114.gz dd if=/dev/hdb skip=14000000 count=1000000 bs=1b | gzip > img.115.gz dd if=/dev/hdb skip=15000000 count=1000000 bs=1b | gzip > img.116.gz dd if=/dev/hdb skip=16000000 count=1000000 bs=1b | gzip > img.117.gz dd if=/dev/hdb skip=17000000 count=1000000 bs=1b | gzip > img.118.gz dd if=/dev/hdb skip=18000000 count=1000000 bs=1b | gzip > img.119.gz dd if=/dev/hdb skip=19000000 count=1000000 bs=1b | gzip > img.120.gz dd if=/dev/hdb skip=20000000 count=1000000 bs=1b | gzip > img.121.gz dd if=/dev/hdb skip=21000000 count=1000000 bs=1b | gzip > img.122.gz dd if=/dev/hdb skip=22000000 count=1000000 bs=1b | gzip > img.123.gz dd if=/dev/hdb skip=23000000 count=1000000 bs=1b | gzip > img.124.gz dd if=/dev/hdb skip=24000000 count=1000000 bs=1b | gzip > img.125.gz dd if=/dev/hdb skip=25000000 count=1000000 bs=1b | gzip > img.126.gz dd if=/dev/hdb skip=26000000 count=1000000 bs=1b | gzip > img.127.gz dd if=/dev/hdb skip=27000000 count=1000000 bs=1b | gzip > img.128.gz dd if=/dev/hdb skip=28000000 count=1000000 bs=1b | gzip > img.129.gz dd if=/dev/hdb skip=29000000 count=1000000 bs=1b | gzip > img.130.gz dd if=/dev/hdb skip=30000000 count=1000000 bs=1b | gzip > img.131.gz dd if=/dev/hdb skip=31000000 count=1000000 bs=1b | gzip > img.132.gz dd if=/dev/hdb skip=32000000 count=1000000 bs=1b | gzip > img.133.gz dd if=/dev/hdb skip=33000000 count=1000000 bs=1b | gzip > img.134.gz dd if=/dev/hdb skip=34000000 count=1000000 bs=1b | gzip > img.135.gz dd if=/dev/hdb skip=35000000 count=1000000 bs=1b | gzip > img.136.gz dd if=/dev/hdb skip=36000000 count=1000000 bs=1b | gzip > img.137.gz

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dd if=/dev/hdb skip=37000000 count=1000000 bs=1b | gzip > img.138.gz
dd if=/dev/hdb skip=38000000 count=1000000 bs=1b | gzip > img.139.gz
dd if=/dev/hdb skip=39000000 count=1000000 bs=1b | gzip > img.140.gz
dd if=/dev/hdb skip=40000000 count=1000000 bs=1b | gzip > img.141.gz
gunzip img.101.gz | dd of=/dev/sda seek=0 count=1000000 bs=1b
gunzip img.102.gz | dd of=/dev/sda seek=1000000 count=1000000 bs=1b
gunzip img.103.gz | dd of=/dev/sda seek=2000000 count=1000000 bs=1b
gunzip img.104.gz | dd of=/dev/sda seek=3000000 count=1000000 bs=1b
gunzip img.105.gz | dd of=/dev/sda seek=4000000 count=1000000 bs=1b
gunzip img.106.gz | dd of=/dev/sda seek=5000000 count=1000000 bs=1b
gunzip img.107.gz | dd of=/dev/sda seek=6000000 count=1000000 bs=1b
gunzip img.108.gz | dd of=/dev/sda seek=7000000 count=1000000 bs=1b
gunzip img.109.gz | dd of=/dev/sda seek=8000000 count=1000000 bs=1b
gunzip img.110.gz | dd of=/dev/sda seek=9000000 count=1000000 bs=1b
gunzip img.111.gz | dd of=/dev/sda seek=10000000 count=1000000 bs=1b
gunzip img.112.gz | dd of=/dev/sda seek=11000000 count=1000000 bs=1b
gunzip img.113.gz | dd of=/dev/sda seek=12000000 count=1000000 bs=1b
gunzip img.114.gz | dd of=/dev/sda seek=13000000 count=1000000 bs=1b
gunzip img.115.gz | dd of=/dev/sda seek=14000000 count=1000000 bs=1b
gunzip img.116.gz | dd of=/dev/sda seek=15000000 count=1000000 bs=1b
gunzip img.117.gz | dd of=/dev/sda seek=16000000 count=1000000 bs=1b
gunzip img.118.gz | dd of=/dev/sda seek=17000000 count=1000000 bs=1b
gunzip img.119.gz | dd of=/dev/sda seek=18000000 count=1000000 bs=1b
gunzip img.120.gz | dd of=/dev/sda seek=19000000 count=1000000 bs=1b
gunzip img.121.gz | dd of=/dev/sda seek=20000000 count=1000000 bs=1b
gunzip img.122.gz | dd of=/dev/sda seek=21000000 count=1000000 bs=1b
gunzip img.123.gz | dd of=/dev/sda seek=22000000 count=1000000 bs=1b
gunzip img.124.gz | dd of=/dev/sda seek=23000000 count=1000000 bs=1b
gunzip img.125.gz | dd of=/dev/sda seek=24000000 count=1000000 bs=1b
gunzip img.126.gz | dd of=/dev/sda seek=25000000 count=1000000 bs=1b
gunzip img.127.gz | dd of=/dev/sda seek=26000000 count=1000000 bs=1b
gunzip img.128.gz | dd of=/dev/sda seek=27000000 count=1000000 bs=1b
gunzip img.129.gz | dd of=/dev/sda seek=28000000 count=1000000 bs=1b
gunzip img.130.gz | dd of=/dev/sda seek=29000000 count=1000000 bs=1b
gunzip img.131.gz | dd of=/dev/sda seek=30000000 count=1000000 bs=1b
gunzip img.132.gz | dd of=/dev/sda seek=31000000 count=1000000 bs=1b
gunzip img.133.gz | dd of=/dev/sda seek=32000000 count=1000000 bs=1b
gunzip img.134.gz | dd of=/dev/sda seek=33000000 count=1000000 bs=1b
gunzip img.135.gz | dd of=/dev/sda seek=34000000 count=1000000 bs=1b
gunzip img.136.gz | dd of=/dev/sda seek=35000000 count=1000000 bs=1b
gunzip img.137.gz | dd of=/dev/sda seek=36000000 count=1000000 bs=1b
gunzip img.138.gz | dd of=/dev/sda seek=37000000 count=1000000 bs=1b
gunzip img.139.gz | dd of=/dev/sda seek=38000000 count=1000000 bs=1b
gunzip img.140.gz | dd of=/dev/sda seek=39000000 count=1000000 bs=1b
gunzip img.141.gz | dd of=/dev/sda seek=40000000 count=1000000 bs=1b
DISKCMP.EXE LX-48 Cadfael 80 F5 81 CB /new_log /comment JRL
DISKHASH.EXE LX-48 Cadfael 80 /comment JRL (F5) /new_log /after
```

Log files & location:	test-archive/dd/gnu-4.0.36/LX-48
Expected Results:	src compares qualified equal to dst Source disk unchanged
Actual Results:	src compares qualified equal to dst Source disk is unchanged
Log File Highlights:	Sectors Compared 40188960 Sectors Differ 0 Diffs range Source (40188960) has 31498410 fewer sectors than destination (71687370) Zero fill: 0 Src Byte fill (F5): 0 Dst Byte fill (CB): 31498410 Other fill: 0 Other no fill: 0 Hash after test: 83A0002816BBF089F8BE33C41C92C3B5A0F42A54
Analysis:	Expected results achieved

Product Name:	dd (GNU fileutils) 4.0.36

Test ID:	DI(Linux)-49
Case Summary:	Create an image from a LINUX IDE source disk to a LINUX SCSI destination disk where the source disk is larger than the destination
Tester Name:	JRL
Test Date:	Sat Aug 25 10:24:45 2001
PC:	Rumpole/Wimsey
Disks:	Source: DOS Drive 80 Physical Label F5 Linux device hda Destination: DOS Drive 81 Physical Label EB Linux device sdb Boot/Image media: Physical Label CB F5 is an IBM-DTLA-307020 40188960 Sectors, IDE EB is a SEAGATE ST39204LC 17921835 Sectors, SCSI CB is a SEAGATE ST336705LC 71687370 Sectors, SCSI Jaz disk with Support software, scripts PC DOS 6.3 Boot floppy
Test Software:	diskcmp.cpp Version 2.8 Created 07/10/01 at 11:22:13 diskhash.cpp Version 2.8 Created 07/10/01 at 11:22:14 diskwipe.cpp Version 2.8 Created 07/10/01 at 11:22:14 partab.cpp Version 2.7 Created 07/20/01 at 09:01:49 zbios.cpp Version 2.9 created 07/10/01 at 11:19:55 zbios.h Version 2.6 Created 07/10/01 at 11:19:56
Scripts:	pre-49 Rumpole/Wimsey JRL F5 EB CB run_dd hda sdb image LX-49 post-49 Rumpole/Wimsey JRL F5 EB
Source disk setup:	Dual boot Linux/Windows Me with EXT2 & Fat16 Disk: F5 Host: Cadfael Operator: JRL OS: WindowsMe/Linux Date: Sat Aug 11 11:13:43 2001 DISKWIPE.EXE F5_SRC Cadfael 80 F5 /src pqmagic /cmd=fat-src.txt Load Operating System to Source disk DISKHASH.EXE F5_SRC Cadfael 80 /before Disk hash = 83A0002816BBF089F8BE33C41C92C3B5A0F42A54 N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 001236942 0000/001/01 0076/254/63 Boot 06 Fat16 2 X 002249100 007181055 0140/000/01 0586/254/63 05 extended 3 S 000000063 000208782 0140/001/01 0152/254/63 83 Linux 4 x 000208845 000144585 0153/000/01 0161/254/63 05 extended 5 S 000000063 000144522 0153/001/01 0161/254/63 06 Fat16 6 x 004450005 000192780 0417/000/01 0428/254/63 05 extended 7 S 000000063 000192717 0417/001/01 0428/254/63 16 other 9 P 009430155 006152895 0587/000/01 0969/254/63 83 Linux 10 P 039760875 000417690 1023/000/01 1023/254/63 82 Linux swap
Destination Setup:	DISKWIPE.EXE LX-49 Rumpole/Wimsey 81 EB /noask /dst /new_log /comment JRL
Execute:	PARTAB.EXE LX-49 Rumpole/Wimsey 80 /all /new_log /comment JRL(F5) PARTAB.EXE LX-49 Rumpole/Wimsey 81 /all /new_log /comment JRL(EB) dd if=/dev/hda skip=0 count=4000000 bs=1b | gzip > img.101.gz dd if=/dev/hda skip=4000000 count=4000000 bs=1b | gzip > img.102.gz dd if=/dev/hda skip=8000000 count=4000000 bs=1b | gzip > img.103.gz dd if=/dev/hda skip=12000000 count=4000000 bs=1b | gzip > img.104.gz dd if=/dev/hda skip=16000000 count=4000000 bs=1b | gzip > img.105.gz gunzip img.101.gz | dd of=/dev/sdb seek=0 count=4000000 bs=1b gunzip img.102.gz | dd of=/dev/sdb seek=4000000 count=4000000 bs=1b gunzip img.103.gz | dd of=/dev/sdb seek=8000000 count=4000000 bs=1b gunzip img.104.gz | dd of=/dev/sdb seek=12000000 count=4000000 bs=1b gunzip img.105.gz | dd of=/dev/sdb seek=16000000 count=4000000 bs=1b DISKCMP.EXE LX-49 Rumpole 80 F5 81 EB /new_log /comment JRL DISKHASH.EXE LX-49 Rumpole 80 /comment JRL (F5) /new_log /after
Log files &	test-archive/dd/gnu-4.0.36/LX-49

location:	
Expected Results:	src compares qualified equal to dst, src is truncated on dst truncation is logged Source disk unchanged
Actual Results:	src compares qualified equal to dst, src is truncated on dst truncation is logged except for 1 sector not copied to destination Source disk is unchanged
Log File Highlights:	Sectors Compared 17921835 Sectors Differ 1 Diffs range 17921834 Source (40188960) has 22267125 more sectors than destination (17921835) Hash after test: 83A0002816BBF089F8BE33C41C92C3B5A0F42A54 dd: writing /dev/sdb: No space left on device
Analysis:	Expected results not achieved.

Product Name:	dd (GNU fileutils) 4.0.36
Test ID:	**DI(Linux)-51**
Case Summary:	Create an image from a LINUX SCSI source disk to a LINUX IDE destination disk where the source disk is smaller than the destination
Tester Name:	JRL
Test Date:	Sat Aug 11 10:25:09 2001
PC:	Wimsey
Disks:	Source: DOS Drive 81 Physical Label E4 Linux device sda Destination: DOS Drive 80 Physical Label A9 Linux device hdb Boot/Image media: Physical Label AE E4 is a QUANTUM ATLAS10K2-TY092J 17938985 Sectors, SCSI A9 is a WDC WD200BB-00AUA1 39102336 Sectors, IDE AE is a Maxtor53073H4 60030432 Sectors, IDE Jaz disk with Support software, scripts PC DOS 6.3 Boot floppy
Test Software:	diskcmp.cpp Version 2.8 Created 07/10/01 at 11:22:13 diskhash.cpp Version 2.8 Created 07/10/01 at 11:22:14 diskwipe.cpp Version 2.8 Created 07/10/01 at 11:22:14 partab.cpp Version 2.7 Created 07/20/01 at 09:01:49 zbios.cpp Version 2.9 created 07/10/01 at 11:19:55 zbios.h Version 2.6 Created 07/10/01 at 11:19:56
Scripts:	pre-51 Wimsey JRL E4 A9 AE run_dd sda hdb image LX-51 post-51 Wimsey JRL E4 A9
Source disk setup:	Windows 2000 with NTFS & Fat32 Disk: E4 Host: JudgeDee Operator: JRL OS: Windows 2000/NT Date: Sat Jul 21 16:58:28 2001 DISKWIPE.EXE E4_SRC JudgeDee 80 E4 /src /noask /comment Windows 2000 source disk pqmagic /cmd=nt-src.txt Load Operating System to Source disk cmd: X:\ss\DISKHASH.EXE Hash Wimsey 80 /comment E4 /new_log /before Disk hash = 25BF8AF6B2D3E0BD1909C96E368DB27F51C49CBF N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 006152832 0000/001/01 0382/254/63 Boot 0B Fat32 2 X 008193150 009735390 0510/000/01 1023/254/63 0F extended 4 x 002056320 001237005 0638/000/01 0714/254/63 05 extended 5 S 000000063 001236942 0638/001/01 0714/254/63 07 NTFS 6 x 005349645 001638630 0843/000/01 0944/254/63 05 extended 7 S 000000063 001638567 0843/001/01 0944/254/63 17 other 8 x 008498385 001237005 1023/000/01 1023/254/63 05 extended 9 S 000000063 001236942 1023/001/01 1023/254/63 1B other

Destination Setup:	DISKWIPE.EXE LX-51 Wimsey 80 A9 /noask /dst /new_log /comment JRL
Execute:	PARTAB.EXE LX-51 Wimsey 80 /all /new_log /comment JRL(E4) PARTAB.EXE LX-51 Wimsey 81 /all /new_log /comment JRL(A9) dd if=/dev/sda skip=0 count=4000000 bs=1b | gzip > img.101.gz dd if=/dev/sda skip=4000000 count=4000000 bs=1b | gzip > img.102.gz dd if=/dev/sda skip=8000000 count=4000000 bs=1b | gzip > img.103.gz dd if=/dev/sda skip=12000000 count=4000000 bs=1b | gzip > img.104.gz dd if=/dev/sda skip=16000000 count=4000000 bs=1b | gzip > img.105.gz gunzip img.101.gz | dd of=/dev/hdb seek=0 count=4000000 bs=1b gunzip img.102.gz | dd of=/dev/hdb seek=4000000 count=4000000 bs=1b gunzip img.103.gz | dd of=/dev/hdb seek=8000000 count=4000000 bs=1b gunzip img.104.gz | dd of=/dev/hdb seek=12000000 count=4000000 bs=1b gunzip img.105.gz | dd of=/dev/hdb seek=16000000 count=4000000 bs=1b DISKCMP.EXE LX-51 Wimsey 81 E4 80 A9 /new_log /comment JRL DISKHASH.EXE LX-51 Wimsey 81 /comment JRL (E4) /new_log /after
Log files & location:	test-archive/dd/gnu-4.0.36/LX-51
Expected Results:	src compares qualified equal to dst Source disk unchanged
Actual Results:	src compares qualified equal to dst except for 1 sector not copied to destination Source disk is unchanged
Log File Highlights:	Sectors Compared 17938985 Sectors Differ 1 Diffs range 17938984 Source (17938985) has 21163351 fewer sectors than destination (39102336) Zero fill: 0 Src Byte fill (E4): 0 Dst Byte fill (A9): 21163351 Other fill: 0 Other no fill: 0 Hash after test: 25BF8AF6B2D3E0BD1909C96E368DB27F51C49CBF
Analysis:	Expected results not achieved.

Product Name:	dd (GNU fileutils) 4.0.36
Test ID:	**DI(Linux)-52**
Case Summary:	Create an image from a LINUX SCSI source disk to a LINUX IDE destination disk where the source disk is larger than the destination
Tester Name:	JRL
Test Date:	Sat Aug 18 10:01:59 2001
PC:	Rumpole
Disks:	Source: DOS Drive 81 Physical Label CC Linux device sda Destination: DOS Drive 80 Physical Label A9 Linux device hdb Boot/Image media: Physical Label AD CC is a SEAGATE ST336705LC 71687370 Sectors, SCSI A9 is a WDC WD200BB-00AUA1 39102336 Sectors, IDE AD is a Maxtor53073H4 60030432 Sectors, IDE Jaz disk with Support software, scripts PC DOS 6.3 Boot floppy
Test Software:	diskcmp.cpp Version 2.8 Created 07/10/01 at 11:22:13 diskhash.cpp Version 2.8 Created 07/10/01 at 11:22:14 diskwipe.cpp Version 2.8 Created 07/10/01 at 11:22:14 partab.cpp Version 2.7 Created 07/20/01 at 09:01:49 zbios.cpp Version 2.9 created 07/10/01 at 11:19:55 zbios.h Version 2.6 Created 07/10/01 at 11:19:56
Scripts:	pre-52 Rumpole JRL CC A9 AD run_dd sda hdb image LX-52 post-52 Rumpole JRL CC A9

Source disk setup:	DISKWIPE only Disk: CC Host: Rumpole Operator: JRL OS: none Date: Thu Aug 16 14:35:27 2001 DISKWIPE.EXE CC_SRC Rumpole 80 CC /src No partitions defined No OS loaded DISKHASH.EXE CC_SRC Rumpole 80 /before Disk hash = 6001BF9E36538F36751C6FEC94E4CE6DCFC85C9A
Destination Setup:	DISKWIPE.EXE LX-52 Rumpole 80 A9 /noask /dst /new_log /comment JRL
Execute:	PARTAB.EXE LX-52 Rumpole 80 /all /new_log /comment JRL(CC) PARTAB.EXE LX-52 Rumpole 81 /all /new_log /comment JRL(A9) dd if=/dev/sda skip=0 count=4000000 bs=1b | gzip > img.101.gz dd if=/dev/sda skip=4000000 count=4000000 bs=1b | gzip > img.102.gz dd if=/dev/sda skip=8000000 count=4000000 bs=1b | gzip > img.103.gz dd if=/dev/sda skip=12000000 count=4000000 bs=1b | gzip > img.104.gz dd if=/dev/sda skip=16000000 count=4000000 bs=1b | gzip > img.105.gz dd if=/dev/sda skip=20000000 count=4000000 bs=1b | gzip > img.106.gz dd if=/dev/sda skip=24000000 count=4000000 bs=1b | gzip > img.107.gz dd if=/dev/sda skip=28000000 count=4000000 bs=1b | gzip > img.108.gz dd if=/dev/sda skip=32000000 count=4000000 bs=1b | gzip > img.109.gz dd if=/dev/sda skip=36000000 count=4000000 bs=1b | gzip > img.110.gz gunzip img.101.gz | dd of=/dev/hdb seek=0 count=4000000 bs=1b gunzip img.102.gz | dd of=/dev/hdb seek=4000000 count=4000000 bs=1b gunzip img.103.gz | dd of=/dev/hdb seek=8000000 count=4000000 bs=1b gunzip img.104.gz | dd of=/dev/hdb seek=12000000 count=4000000 bs=1b gunzip img.105.gz | dd of=/dev/hdb seek=16000000 count=4000000 bs=1b gunzip img.106.gz | dd of=/dev/hdb seek=20000000 count=4000000 bs=1b gunzip img.107.gz | dd of=/dev/hdb seek=24000000 count=4000000 bs=1b gunzip img.108.gz | dd of=/dev/hdb seek=28000000 count=4000000 bs=1b gunzip img.109.gz | dd of=/dev/hdb seek=32000000 count=4000000 bs=1b gunzip img.110.gz | dd of=/dev/hdb seek=36000000 count=4000000 bs=1b DISKCMP.EXE LX-52 Rumpole 81 CC 80 A9 /new_log /comment JRL DISKHASH.EXE LX-52 Rumpole 81 /comment JRL (CC) /new_log /after
Log files & location:	test-archive/dd/gnu-4.0.36/LX-52
Expected Results:	src compares qualified equal to dst, src is truncated on dst truncation is logged Source disk unchanged
Actual Results:	src compares qualified equal to dst, src is truncated on dst truncation is logged Source disk is unchanged
Log File Highlights:	Sectors Compared 39102336 Sectors Differ 0 Diffs range Source (71687370) has 32585034 more sectors than destination (39102336) Hash after test: 6001BF9E36538F36751C6FEC94E4CE6DCFC85C9A dd: writing /dev/hdb: No space left on device
Analysis:	Expected results achieved

About the National Institute of Justice

NIJ is the research, development, and evaluation agency of the U.S. Department of Justice and is solely dedicated to researching crime control and justice issues. NIJ provides objective, independent, nonpartisan, evidence-based knowledge and tools to meet the challenges of crime and justice, particularly at the State and local levels. NIJ's principal authorities are derived from the Omnibus Crime Control and Safe Streets Act of 1968, as amended (42 U.S.C. §§ 3721–3722).

NIJ's Mission

In partnership with others, NIJ's mission is to prevent and reduce crime, improve law enforcement and the administration of justice, and promote public safety. By applying the disciplines of the social and physical sciences, NIJ—

- Researches the nature and impact of crime and delinquency.
- Develops applied technologies, standards, and tools for criminal justice practitioners.
- Evaluates existing programs and responses to crime.
- Tests innovative concepts and program models in the field.
- Assists policymakers, program partners, and justice agencies.
- Disseminates knowledge to many audiences.

NIJ's Strategic Direction and Program Areas

NIJ is committed to five challenges as part of its strategic plan: 1) *rethinking* justice and the processes that create just communities; 2) *understanding* the nexus between social conditions and crime; 3) *breaking* the cycle of crime by testing research-based interventions; 4) *creating* the tools and technologies that meet the needs of practitioners; and 5) *expanding* horizons through interdisciplinary and international perspectives. In addressing these strategic challenges, the Institute is involved in the following program areas: crime control and prevention, drugs and crime, justice systems and offender behavior, violence and victimization, communications and information technologies, critical incident response, investigative and forensic sciences (including DNA), less-than-lethal technologies, officer protection, education and training technologies, testing and standards, technology assistance to law enforcement and corrections agencies, field testing of promising programs, and international crime control. NIJ communicates its findings through conferences and print and electronic media.

NIJ's Structure

The NIJ Director is appointed by the President and confirmed by the Senate. The NIJ Director establishes the Institute's objectives, guided by the priorities of the Office of Justice Programs, the U.S. Department of Justice, and the needs of the field. NIJ actively solicits the views of criminal justice and other professionals and researchers to inform its search for the knowledge and tools to guide policy and practice.

NIJ has three operating units. The Office of Research and Evaluation manages social science research and evaluation and crime mapping research. The Office of Science and Technology manages technology research and development, standards development, and technology assistance to State and local law enforcement and corrections agencies. The Office of Development and Communications manages field tests of model programs, international research, and knowledge dissemination programs.