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FS-TST 2.0: Forensic Software

Testing Support Tools

Test Summary Report

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Abstract

This NIST Internal Report deals with Release 2.0 of a software package, Forensic Software Testing Support Tools (FS-TST 2.0), developed to aid the testing of disk imaging tools typically used in forensic investigations. The package includes programs that initialize disk drives, detect changes in disk content, and compare pairs of disks. This Internal Report consists of three parts.

Part A, *Test Plan, Test Design Specifications, and Test Case Specification*, is a companion document. It covers the planning, design, and specification of testing of FS-TST 2.0. The setup of disk drives and the testing is to be performed in the Linux environment; however, some tests will require interaction with the MS-DOS operating system.

This is Part B, *Test Summary Report*. It reports the result of testing the FS-TST 2.0 package according to Part A. Two programs might have had slightly more convenient behavior in erroneous cases, but no anomalies were found in testing.

Part C, *Code Review Report*, is an additional companion document. It covers the planning and specification of reviewing all the source code in the package and reports the results of the code reviews. Nothing was found in the code reviews that should cause invalid results, that is, that should lead to an imaging tool with systematic errors being incorrectly passed as adhering to the assertions.

The reader of this document should be familiar with the Linux operating system, computer operation, and computer hardware components such as hard drives.

Keywords: Computer forensic tool; disk imaging; software testing; testing support tools; FS-TST.

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1 Summary

1.1 Items tested

We tested the forensic software testing support tools (FS-TST) version 2.0 (for Linux systems), namely: ***diskwipe***, ***partab***, ***diskchg***, ***seccmp***, ***partcmp***, ***diskcmp***, ***corrupt***, ***logsetup***, ***logcase***, ***adjcmp***, ***diskhash***, and ***sechash***.

The following document contains the requirements and user manual for the FS-TST 2.0 tools:

[SPECS] *Forensic Software Testing Support Tools 2.0: Requirements, Design Notes, and User Manual. Version 2.0, February 2005*.

The test plan, test design specifications, and test case specifications are included in the following document:

[PLAN] *Forensic Software Testing Support Tools 2.0: Test plan, Test Design Specification, and Test Case Specification – April 2005*.

1.2 Environment

The tests were run in the National Institute of Standards and Technology (NIST) Computer Forensics Tool Testing (CFTT) Laboratory. This section describes the hardware (host computers and hard disk drives) and the software, other than FS-TST, used in the setup, running, and examination of the results of the test cases.

1.2.1 Hardware used for testing

Host Computers:

Name	BIOS	HDD Slots
McMillan	Extended	3 IDE + 2 SCSI
Frank	Extended	2 IDE + 2 SCSI + 2 SATA

Hard Disk Drives:

Label	Model	Interface	Sectors	GB
3B	MAG3091L SUN9.0G	SCSI	17,689,266	8
7F	MAXTOR 6L040J2	IDE	78,177,792	40
80	WDC WD800BB-00CAA1	IDE	156,301,488	80
81	WDC WD800BB-00CAA1	IDE	156,301,488	80
82	WDC WD800BB-00CAA1	IDE	156,301,488	80
CC	SEAGATE ST336705LC	SCSI	71,687,370	34
10B	WDC WD2500JD-22F	SATA	488,397,168	250

1.2.2 Software used for testing

Partition Magic ® Pro, Version 6.0, PowerQuest Corporation.
Disk Editor (diskedit), Version 8.0, Symantec Corporation.

Disk Editor (diskedit), Norton Utilities 2002, Symantec Corporation.
Linux 8.2 Operating System.
Fedora Core 3 (Red Hat) Operating System.
NIST Forensics Software Testing Support Tools FS-TST 1.0 (for DOS)
NIST Computer Forensic Reference Data Sets (CFReDS) script *cal-drive.csh* (see http://www.cfreds.nist.gov/) and two variants of this script, cal-drive-count.csh and cal-drive-count-seek.csh.

2 Variances

No variances were made from the test plan or the test design specification.

3 Summary of Results

Each FS-TST 2.0 tool passed all tests.

3.1 Observations

Some observations were made during testing. These are collected here.

Because the design of partition table entries in the file system have a limited number of bits, C/H/S start and end addresses cannot express more than 1023 cylinders and C/H/S addresses above 1023 cylinders are incorrect in the partition table. Tools such as *partab* accurately report the contents of the partition table.

If the partition table has invalid information, like cases pcm-07 and pcm-08, *partcmp* could have detected the erroneous condition earlier and produced messages which were more helpful to the user.

3.2 Test Case Results

The table below provides a description of the headings used in the test results summaries:

Heading	**Description**
First Line:	Test case id, name and version of the software tool tested.
Case Summary:	Test case summary extracted from the document *Test Design Specification* for the tool under test.
Tester Name:	Name or initials of person executing the test procedure.
Test Date:	Time and date that test was started.
PC:	Name and BIOS of computer where the tool under test was executed.
Disks:	Description of the hard disks used in the test as the source, destination, and media. Sometimes we attached the BIOS-assigned drive number in hexadecimal, as well as the Linux device name.
Execute:	Documentation of each command executed during the test.
Log files and location:	Name and location of the log files in the test file archive.
Log File Highlights:	Selected entries from the test case log files.

Expected Results:	Expected results as listed in the document *Test Design Specification* for the tool under test.
Actual Results:	List of anomalies observed.
Analysis:	Whether or not the expected results were achieved.

3.2.1 *Diskwipe* Test Results Summary

Case Dkw-01	
Case summary:	Test whether ***diskwipe***: -displays a summary of the command line arguments and options. -displays the program, support libraries if any, and header files if any -logs the hard disk drive we select to be wiped -creates a new log file on the log disk with the default name for a destination disk. -logs the comment supplied with the -comment option -logs all other required information -wipes the hard disk
Tester name:	Serban
Test date:	Thu Mar 31 11:23:03 2005
PC:	Mcmillan
Disks:	Destination: /dev/sda, external label “CC”, model ST336705LC serial # 3DE03HL300008110CEHF.
Execute:	Boot to Red Hat Linux (OS on disk labeled 81). Run command: diskwipe dkw-01 mcmillan serban /dev/sda CC -comment Wipeout
Log files location:	Test-archive/diskwipe/dkw-01/
Log file highlights:	**Wipedlog.txt:** diskwipe @(#) diskwipe.c Linux Version 1.4 Created 03/18/05 at 14:49:21 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskwipe dkw-01 mcmillan serban /dev/sda CC -comment Wipeout TEST dkw-01 HOST mcmillan OPERATOR serban Comment: Wipeout Wipe Drive /dev/sda 04461/254/63 (max cyl/hd values)

	04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) 71687370 sectors wiped with CC run start Thu Mar 31 11:23:03 2005 run finish Thu Mar 31 12:20:09 2005 elapsed time 0:57:6 Normal exit
Expected results:	Disk initialized with 0xCC. All required information logged in the log file "wipedlog.txt".
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Dkw-02	
Case summary:	test whether ***diskwipe*** -creates a new log file when we specify -new_log, even though a log file with the same name already exists. -logs a multi-word comment -handles -noask correctly
Tester name:	serban
Test date:	Thu Mar 31 13:47:36 2005
PC:	Mcmillan
Disks:	Destination: /dev/sda, external label "CC", model ST336705LC serial # 3DE03HL300008110CEHF
Execute:	Boot to Red Hat Linux (disk labeled 81). Run ***diskwipe*** to wipe out the destination disk: diskwipe dkw-02 mcmillan serban /dev/sda CC -new_log -comment "Wiping a destination disk" -noask
Log files location:	Test-archive/diskwipe/dkw-02
Log file highlights:	**Wipedlog.txt:** diskwipe @(#) diskwipe.c Linux Version 1.4 Created 03/18/05 at 14:49:21 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskwipe dkw-02 mcmillan serban /dev/sda CC -new_log -comment Wiping a destination disk -noask TEST dkw-02 HOST mcmillan OPERATOR serban Comment: Wiping a destination disk

	Wipe Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) 71687370 sectors wiped with CC run start Thu Mar 31 13:47:36 2005 run finish Thu Mar 31 14:43:28 2005 elapsed time 0:55:52 Normal exit
Expected results:	A new log file "wipedlog.txt" is created. Disk was initialized with 0xCC. Required information logged.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Dkw-03	
Case summary:	Test whether ***diskwipe*** -prompts for a comment when no comment is supplied -appends the log records to an existing log file -fills the sectors according to the -heads option
Tester name:	Serban
Test date:	Thu Mar 31 14:56:31 2005
PC:	Mcmillan
Disks:	Destination: /dev/sda, external label "CC", model ST336705LC serial # 3DE03HL300008110CEHF
Execute:	Run ***diskwipe***: diskwipe dkw-03 mcmillan serban /dev/sda CC -dst -noask -heads 200
Log files location:	Test-archive/diskwipe/dkw-03
Log file highlights:	**Wipedlog.txt:** ---old contents – from dkw-02 – followed by--- diskwipe @(#) diskwipe.c Linux Version 1.4 Created 03/18/05 at 14:49:21 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskwipe dkw-03 mcmillan serban /dev/sda CC -dst

	-noask -heads 200 TEST dkw-03 HOST mcmillan OPERATOR serban Comment: Initialize destination disk using a new geometry Wipe Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Override number of heads from 255 to 200 71687370 sectors wiped with CC run start Thu Mar 31 14:56:31 2005 run finish Thu Mar 31 15:51:58 2005 elapsed time 0:55:27 Normal exit
Expected results:	The log records are appended to the log file created for /dst by test dkw-02. Logged information is correct. Disk is initialized correctly for the new geometry.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Dkw-04	
Case summary:	test whether ***diskwipe*** creates a log file with a special name for a source hard disk.
Tester name:	Serban
Test date:	Mar 31 16:24:14 2005
PC:	Mcmillan
Disks:	Source: /dev/hdb, external label “7F”, model MAXTOR 6L040J2 serial # 662201137770
Execute:	Run ***diskwipe***: diskwipe dkw-04 mcmillan serban /dev/hdb 7F -src -noask
Log files location:	Test-archive/diskwipe/dkw-04
Log file highlights:	**Wipeslog.txt:** diskwipe @(#) diskwipe.c Linux Version 1.4 Created 03/18/05 at 14:49:21 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at

	10:53:24 cmd: diskwipe dkw-04 mcmillan serban /dev/hdb 7F -src -noask TEST dkw-04 HOST mcmillan OPERATOR serban Comment: Initialize a source disk Wipe Drive /dev/hdb 04865/254/63 (max cyl/hd values) 04866/255/63 (number of cyl/hd) 78177792 total number of sectors IDE disk: Model (MAXTOR 6L040J2) serial # (662201137770) 78177792 sectors wiped with 7F run start Thu Mar 31 16:24:14 2005 run finish Thu Mar 31 17:23:32 2005 elapsed time 0:59:18 Normal exit
Expected results:	New log file for source disk “wipeslog.txt” is created. Required information is logged. The source disk is initialized correctly.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Dkw-05	
Case summary:	test whether ***diskwipe*** creates a log file with a special name for a media hard disk.
Tester name:	serban
Test date:	Thu Mar 31 18:01:07 2005
PC:	Mcmillan
Disks:	Media: /dev/hdb, external label “7F”, model MAXTOR 6L040J2 serial # 662201137770
Execute:	Run ***diskwipe***: diskwipe dkw-05 mcmillan serban /dev/hdb 7F -media –noask
Log files location:	Test-archive/diskwipe/dkw-05
Log file highlights:	**Wipemlog.txt:** diskwipe @(#) diskwipe.c Linux Version 1.4 Created 03/18/05 at 14:49:21 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at

	10:53:24 cmd: diskwipe dkw-05 mcmillan serban /dev/hdb 7F -noask -media TEST dkw-05 HOST mcmillan OPERATOR serban Comment: Initialize a media disk Wipe Drive /dev/hdb 04865/254/63 (max cyl/hd values) 04866/255/63 (number of cyl/hd) 78177792 total number of sectors IDE disk: Model (MAXTOR 6L040J2) serial # (662201137770) 78177792 sectors wiped with 7F run start Thu Mar 31 18:01:07 2005 run finish Thu Mar 31 19:00:26 2005 elapsed time 0:59:19 Normal exit
Expected results:	New log file for media disk "wipemlog.txt" is created. Required information is logged. The media disk is initialized correctly.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Dkw-06	
Case summary:	test whether ***diskwipe*** creates a log file with a name given in the -log_name option for a destination disk
Tester name:	serban
Test date:	Fri Apr 1 08:45:47 2005
PC:	Mcmillan
Disks:	Destination: /dev/sda, external label "3B", model MAG3091L SUN9.0G, serial # 02464303
Execute:	Run ***diskwipe***: diskwipe dkw-06 mcmillan serban /dev/sda 3B -noask -log_name dkwlog.txt
Log files location:	Test-archive/diskwipe/dkw-06
Log file highlights:	**dkwlog.txt:** diskwipe @(#) diskwipe.c Linux Version 1.4 Created 03/18/05 at 14:49:21 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at

	10:53:24 cmd: diskwipe dkw-06 mcmillan serban /dev/sda 3B -noask -log_name dkwlog.txt TEST dkw-06 HOST mcmillan OPERATOR serban Comment: Use alternate log file name Wipe Drive /dev/sda 01100/254/63 (max cyl/hd values) 01101/255/63 (number of cyl/hd) 17689267 total number of sectors Non-IDE disk Model (MAG3091L SUN9.0G) serial # (02464303) 17689267 sectors wiped with 3B run start Fri Apr 1 08:45:47 2005 run finish Fri Apr 1 09:02:59 2005 elapsed time 0:17:12 Normal exit
Expected results:	A new log file with the alternate name "dkwlog.txt" is created. Required information is logged. The destination disk is initialized correctly.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Dkw-07	
Case summary:	test whether ***diskwipe*** appends the log for a source disk to a log file with an alternate name when that file already exists.
Tester name:	serban
Test date:	Fri Apr 1 09:09:12 2005
PC:	Mcmillan
Disks:	Source: /dev/sda, external label "3B", model MAG3091L SUN9.0G, serial # 02464303
Execute:	Run ***diskwipe***: diskwipe dkw-07 mcmillan serban /dev/sda 4B -noask -src -log_name dkwlog.txt
Log files location:	Test-archive/diskwipe/dkw-07
Log file highlights:	**dkwlog.txt:** ---old contents of dkwlog.txt – followed by--- diskwipe @(#) diskwipe.c Linux Version 1.4 Created 03/18/05 at 14:49:21 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at

	09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskwipe dkw-07 mcmillan serban /dev/sda 4B -noask -src -log_name dkwlog.txt TEST dkw-07 HOST mcmillan OPERATOR serban Comment: Wipe Drive /dev/sda 01100/254/63 (max cyl/hd values) 01101/255/63 (number of cyl/hd) 17689267 total number of sectors Non-IDE disk Model (MAG3091L SUN9.0G) serial # (02464303) 17689267 sectors wiped with 4B run start Fri Apr 1 09:09:12 2005 run finish Fri Apr 1 09:26:23 2005 elapsed time 0:17:11 Normal exit
Expected results:	The user is prompted to confirm the selection of an alternate log file name, which conflicts with the –src option. The log records are appended to the existing log file “dkwlog.txt”. Required information is logged. The source disk is initialized correctly.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Dkw-08	
Case summary:	test whether ***diskwipe*** creates a new log file with a name given in the -log_name option, even though a log file with the same name exists and the -new_log option is used.
Tester name:	Serban
Test date:	Fri Apr 1 17:16:40 2005
PC:	Mcmillan
Disks:	Destination: /dev/sda, external label “3B”, model MAG3091L SUN9.0G, serial # 02464303
Execute:	Run ***diskwipe***: diskwipe dkw-08 mcmillan serban /dev/sda 5B -noask -new_log -log_name dkwlog.txt
Log files location:	Test-archive/diskwipe/dkw-08
Log file highlights:	**dkwlog.txt:** diskwipe @(#) diskwipe.c Linux Version 1.4 Created

	03/18/05 at 14:49:21 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskwipe dkw-08 mcmillan serban /dev/sda 5B -noask -new_log -log_name dkwlog.txt TEST dkw-08 HOST mcmillan OPERATOR serban Comment: New log file with alternate name Wipe Drive /dev/sda 01100/254/63 (max cyl/hd values) 01101/255/63 (number of cyl/hd) 17689267 total number of sectors Non-IDE disk Model (MAG3091L SUN9.0G) serial # (02464303) 17689267 sectors wiped with 5B run start Fri Apr 1 17:16:40 2005 run finish Fri Apr 1 17:33:44 2005 elapsed time 0:17:4 Normal exit
Expected results:	A new log file with the alternate name “dkwlog.txt” is created, although an old one with the same name exists. Required information is logged. The disk is initialized correctly.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Dkw-09	
Case summary:	test ***diskwipe*** on a very large Serial ATA hard disk drive.
Tester name:	Serban
Test date:	Mon Mar 28 15:44:48 2005
PC:	Frank
Disks:	Destination: /dev/sda, external label “10B”, model WDC WD2500JD-22F, serial # WD-WMAEH2677545.
Execute:	Run ***diskwipe***: diskwipe dkw-09 frank serban /dev/sda AA -new_log -noask
Log files location:	Test-archive/diskwipe/dkw-09
Log file highlights:	**dkwlog.txt:** diskwipe @(#) diskwipe.c Linux Version 1.4 Created

	03/18/05 at 14:49:21 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskwipe dkw-09 frank serban /dev/sda AA -new_log -noask TEST dkw-09 HOST frank OPERATOR serban Comment: Wipe out a SATA disk Wipe Drive /dev/sda 30400/254/63 (max cyl/hd values) 30401/255/63 (number of cyl/hd) 488397168 total number of sectors Non-IDE disk Model (WDC WD2500JD-22F) serial # (WD-WMAEH2677545) 488397168 sectors wiped with AA run start Mon Mar 28 15:44:48 2005 run finish Mon Mar 28 20:10:10 2005 elapsed time 4:25:22 Normal exit
Expected results:	A log file for the destination disk “wipedlog.txt” is created. Required information is logged. The disk is initialized correctly.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Dkw-10	
Case summary:	Run ***diskwipe*** without arguments, with incorrect arguments, with the –h option alone on the command line, with correct arguments and the –h option on the command line, and capture its standard output into a file.
Tester name:	Serban
Test date:	Fri Apr 1 17:36:56 2005
PC:	McMillan
Disks:	None.
Execute:	Run ***diskwipe***: diskwipe > output.txt diskwipe dkw-10 mcmillan serban –logname >> output.txt

	diskwipe –h >> output.txt diskwipe dkw-10 mcmillan serban /dev/sda CC –h >> output.txt
Log files location:	Test-archive/diskwipe/dkw-10
Log file highlights:	**output.txt:** diskwipe Fri Apr 1 17:36:56 2005 @(#) diskwipe.c Linux Version 1.4 Created 03/18/05 at 14:49:21 Compiled Mar 25 2005 19:16:47 with CC Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) cmd: diskwipe Drive /dev/hda Usage: diskwipe test-case host operator drive fill [-options] -src Wipe a source disk -media Wipe a media disk -dst Wipe a destination disk (default) -heads nnn Override number of heads from BIOS with nnn -comment " ... " Give a comment on command line -noask Suppress confirmation dialog -new_log Start a new log file (default is append to old log file) -log_name <name> Use a different log file (default is wipedlog.txt) -h Print this option list diskwipe Fri Apr 1 17:37:29 2005 @(#) diskwipe.c Linux Version 1.4 Created 03/18/05 at 14:49:21 Compiled Mar 25 2005 19:16:47 with CC Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) cmd: diskwipe dkw-10 mcmillan serban /dev/hdb 7F -logname Drive /dev/hdb Invalid parameter: -logname Usage: diskwipe test-case host operator drive fill [-options] -src Wipe a source disk -media Wipe a media disk -dst Wipe a destination disk (default) -heads nnn Override number of heads from BIOS with nnn -comment " ... " Give a comment on command line -noask Suppress confirmation dialog -new_log Start a new log file (default is append to

	old log file) -log_name <name> Use a different log file (default is wipedlog.txt) -h Print this option list …
Expected results:	Diskwipe displays its usage mode in each case.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

3.2.2 *Partab* Test Results Summary

Case Ptb-01	
Case summary:	Run *partab* on a (SCSI) disk with no partition table or with an empty partition table (all 4 entries of the MBR partition table empty). Use: -the –all option to list all entries, even empty; -the –comment option with one-word comment.
Tester name:	Serban
Test date:	Sun Apr 3 12:15:27 2005
PC:	McMillan
Disks:	/dev/sda, external label “CC”, model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run ***partab*** twice: first when the disk has no partition table, then when the disk has a partition table with all entries empty: partab ptb-01 mcmillan serban /dev/sda CC -all -comment NoTable partab ptb-01 mcmillan serban /dev/sda CC -all -comment EmptyTable
Log files location:	Test-archive/partab/ptb-01
Log file highlights:	**Pt-sda-log.txt:** **partab** @(#) partab.c Linux Version 1.4 Created 03/21/05 at 09:09:30 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: partab ptb-01 mcmillan serban /dev/sda CC -all -comment NoTable TEST ptb-01 HOST mcmillan OPERATOR serban Comment: NoTable Drive label: CC Partition table Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Error reading partition table, code -1

	run start Sun Apr 3 12:15:27 2005 run finish Sun Apr 3 12:15:27 2005 elapsed time 0:0:0 Normal exit **partab** @(#) partab.c Linux Version 1.4 Created 03/21/05 at 09:09:30 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: partab ptb-01 mcmillan serban /dev/sda CC -all -comment EmptyTable TEST ptb-01 HOST mcmillan OPERATOR serban Comment: EmptyTable Drive label: CC Partition table Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 2 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 3 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 4 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry P primary partition (1-4) S secondary (sub) partition X primary extended partition (1-4) x secondary extended partition run start Sun Apr 3 12:31:47 2005 run finish Sun Apr 3 12:31:47 2005 elapsed time 0:0:0 Normal exit
Expected results:	*Partab* creates a log file with the name specific for the hard disk drive used in test case, “pt-sda-log.txt”. It appends the log record for the second command to the

	same log file created by the first *partab* command. *Partab* logs all required information, including the fact that no partition table was found, or that all 4 entries are empty.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Ptb-02	
Case summary:	Run *partab* on a (SCSI) disk with a primary FAT16 partition on it. Use: -the –all option to list all entries, even empty; -the –new_log option to create a new log file although one with the same name already exists; -the –comment option with a multi-word comment.
Tester name:	Serban
Test date:	Sun Apr 3 12:42:58 2005
PC:	McMillan
Disks:	/dev/sda, external label “CC”, model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run ***partab***: partab ptb-02 mcmillan serban /dev/sda CC -new_log -all -comment “Primary FAT16 partition”
Log files location:	Test-archive/partab/ptb-02
Log file highlights:	**Pt-sda-log.txt:** partab @(#) partab.c Linux Version 1.4 Created 03/21/05 at 09:09:30 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: partab ptb-02 mcmillan serban /dev/sda CC -new_log -all -comment Primary FAT16 partition TEST ptb-02 HOST mcmillan OPERATOR serban Comment: Primary FAT16 partition Drive label: CC Partition table Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial #

	(3DE03HL300008110CEHF) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 000417627 0000/001/01 0025/254/63 06 Fat16 2 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 3 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 4 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry P primary partition (1-4) S secondary (sub) partition X primary extended partition (1-4) x secondary extended partition run start Sun Apr 3 12:42:58 2005 run finish Sun Apr 3 12:42:58 2005 elapsed time 0:0:0 Normal exit
Expected results:	*Partab* creates a new log file with the name specific for the hard disk drive used in the test case, "pt-sda-log.txt", although a file with the same name exists. It displays the FAT16 partition entry information correctly, as well as the empty entries. It logs all required information.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Ptb-03	
Case summary:	Run *partab* on a (SCSI) disk with a primary FAT32 partition on it. Use: -the –all option to list all entries, even empty. -interactive comment; -the log file created in the previous case, in order to append the log records to it.
Tester name:	Serban
Test date:	Sun Apr 3 12:55:33 2005
PC:	McMillan
Disks:	/dev/sda, external label "CC", model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run ***partab***: partab ptb-03 mcmillan serban /dev/sda CC –all
Log files location:	Test-archive/partab/ptb-03
Log file highlights:	**Pt-sda-log.txt:**

	-----log of the previous case----- partab @(#) partab.c Linux Version 1.4 Created 03/21/05 at 09:09:30 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: partab ptb-03 mcmillan serban /dev/sda CC -all TEST ptb-03 HOST mcmillan OPERATOR serban Comment: FAT32, append log Drive label: CC Partition table Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 000417627 0000/001/01 0025/254/63 0B Fat32 2 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 3 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 4 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry P primary partition (1-4) S secondary (sub) partition X primary extended partition (1-4) x secondary extended partition run start Sun Apr 3 12:55:33 2005 run finish Sun Apr 3 12:55:47 2005 elapsed time 0:0:14 Normal exit
Expected results:	*Partab* appends the log records to the existing log “pt-sda-log.txt” created in the previous case. It displays the FAT32 partition entry information correctly, as well as the empty entries. It logs all required information.
Actual results:	No anomalies detected.

Analysis:	Expected results achieved.

Case Ptb-04	
Case summary:	Run *partab* twice on an IDE disk with a primary NTFS partition on it: first using only the –all option, so that we can test whether the log file name changes accordingly to the hard disk drive used in the test case; then using the –log_name option to specify an alternate log file name.
Tester name:	Serban
Test date:	Sun Apr 3 13:14:39 2005
PC:	McMillan
Disks:	/dev/hdb, external label "7F", model MAXTOR 6L040J2, serial # 662201137770.
Execute:	Run ***partab*** twice: partab ptb-04 mcmillan serban /dev/hdb 7F –all partab ptb-04 mcmillan serban /dev/hdb 7F -all -log_name ptblog.txt
Log files location:	Test-archive/partab/ptb-04
Log file highlights:	**Pt-hdb-log.txt:** partab @(#) partab.c Linux Version 1.4 Created 03/21/05 at 09:09:30 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: partab ptb-04 mcmillan serban /dev/hdb 7F -all TEST ptb-04 HOST mcmillan OPERATOR serban Comment: NTFS partition, default log file name Drive label: 7F Partition table Drive /dev/hdb 04865/254/63 (max cyl/hd values) 04866/255/63 (number of cyl/hd) 78177792 total number of sectors IDE disk: Model (MAXTOR 6L040J2) serial # (662201137770) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000032193 000417627 0002/001/01 0027/254/63

	07 NTFS 2 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 3 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 4 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry P primary partition (1-4) S secondary (sub) partition X primary extended partition (1-4) x secondary extended partition run start Sun Apr 3 13:14:39 2005 run finish Sun Apr 3 13:15:02 2005 elapsed time 0:0:23 Normal exit **Ptblog.txt:** partab @(#) partab.c Linux Version 1.4 Created 03/21/05 at 09:09:30 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: partab ptb-04 mcmillan serban /dev/hdb 7F -all -log_name ptblog.txt TEST ptb-04 HOST mcmillan OPERATOR serban Comment: NTFS partition, alternate log file name Drive label: 7F Partition table Drive /dev/hdb 04865/254/63 (max cyl/hd values) 04866/255/63 (number of cyl/hd) 78177792 total number of sectors IDE disk: Model (MAXTOR 6L040J2) serial # (662201137770) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000032193 000417627 0002/001/01 0027/254/63 07 NTFS 2 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 3 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry

	4 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry P primary partition (1-4) S secondary (sub) partition X primary extended partition (1-4) x secondary extended partition run start Sun Apr 3 13:14:03 2005 run finish Sun Apr 3 13:14:22 2005 elapsed time 0:0:19 Normal exit
Expected results:	When run for the first time, *partab* creates a new log file "pt-hdb-log.txt" for the device /dev/hdb. The second command creates a log file with the alternate name "ptblog.txt". In both cases, *partab* displays the NTFS partition entry information correctly, as well as the empty entries. It logs all required information.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Ptb-05	
Case summary:	Run *partab* on an IDE disk with large (>8GB) primary FAT32 and Linux Ext2 partitions, and a Linux swap partition. Use: -the –log_name option to specify the same alternate log file name as in the previous case – in order to test whether the log records are appended to the existing log file; -the –all option.
Tester name:	Serban
Test date:	Sun Apr 3 18:47:35 2005
PC:	McMillan
Disks:	/dev/hdb, external label "7F", model MAXTOR 6L040J2, serial # 662201137770.
Execute:	Run ***partab***: partab ptb-05 mcmillan serban /dev/hdb 7F -all -log_name ptblog.txt
Log files location:	Test-archive/partab/ptb-05
Log file highlights:	**Ptblog.txt:** -----Log records of previous case followed by---- partab @(#) partab.c Linux Version 1.4 Created 03/21/05 at 09:09:30 compiled on Mar 25 2005 at 19:16:47 using gcc Version

	3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: partab ptb-05 mcmillan serban /dev/hdb 7F -all -log_name ptblog.txt TEST ptb-05 HOST mcmillan OPERATOR serban Comment: Large FAT32, append to alternate log file Drive label: 7F Partition table Drive /dev/hdb 04865/254/63 (max cyl/hd values) 04866/255/63 (number of cyl/hd) 78177792 total number of sectors IDE disk: Model (MAXTOR 6L040J2) serial # (662201137770) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 020482812 0000/001/01 1023/254/63 0C Fat32X 2 P 020482875 020482875 1023/000/01 1023/254/63 83 Linux 3 P 040965750 000787185 1023/000/01 1023/254/63 82 Linux swap 4 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry P primary partition (1-4) S secondary (sub) partition X primary extended partition (1-4) x secondary extended partition run start Sun Apr 3 18:47:35 2005 run finish Sun Apr 3 18:47:54 2005 elapsed time 0:0:19 Normal exit
Expected results:	*Partab* appends the log records to the existing log file “ptblog.txt”. It displays the NTFS partition entry information correctly, as well as the empty entries. It logs all required information.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Ptb-06	
Case summary:	Run *partab* on an IDE disk with a primary FAT16 partition, a primary FAT32 hidden partition, a primary HPFS hidden partition, and a primary unformatted partition. Use: -the –new_log option and the –log_name option to specify the same alternate log file name as in the previous case – in order to test whether *partab* creates a new log file with the same alternate name if one already exists. -the –all option.
Tester name:	Serban
Test date:	Sun Apr 3 19:04:17 2005
PC:	McMillan
Disks:	/dev/hdb, external label “7F”, model MAXTOR 6L040J2, serial # 662201137770.
Execute:	Run ***partab***: partab ptb-06 mcmillan serban /dev/hdb 7F -all -new_log -log_name ptblog.txt
Log files location:	Test-archive/partab/ptb-06
Log file highlights:	**Ptblog.txt:** partab @(#) partab.c Linux Version 1.4 Created 03/21/05 at 09:09:30 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: partab ptb-06 mcmillan serban /dev/hdb 7F -all -new_log -log_name ptblog.txt TEST ptb-06 HOST mcmillan OPERATOR serban Comment: Various primary partitions, new alternate log file Drive label: 7F Partition table Drive /dev/hdb 04865/254/63 (max cyl/hd values) 04866/255/63 (number of cyl/hd) 78177792 total number of sectors IDE disk: Model (MAXTOR 6L040J2) serial # (662201137770) N Start LBA Length Start C/H/S End C/H/S boot Partition type

	1 P 000000063 000417627 0000/001/01 0025/254/63 06 Fat16 2 P 000417690 000417690 0026/000/01 0051/254/63 1B other 3 P 000835380 000417690 0052/000/01 0077/254/63 17 other 4 P 001253070 000417690 0078/000/01 0103/254/63 16 other P primary partition (1-4) S secondary (sub) partition X primary extended partition (1-4) x secondary extended partition run start Sun Apr 3 19:04:17 2005 run finish Sun Apr 3 19:04:33 2005 elapsed time 0:0:16 Normal exit
Expected results:	*Partab* creates a new log file "ptblog.txt", although one with the same name exists. It displays the partition table entry information correctly. It logs all required information.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Ptb-07	
Case summary:	Run *partab* on a SCSI with a variety of primary and logical partitions: a primary FAT32, a primary Linux Ext2, a primary extended partition, which contains logical partitions FAT16, FAT32, and NTFS. Use: -the –new_log option; -the –all option.
Tester name:	Serban
Test date:	Sun Apr 3 18:49:45 2005
PC:	McMillan
Disks:	/dev/sda, external label "CC", model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run ***partab***: partab ptb-07 mcmillan serban /dev/sda CC -all -new_log
Log files location:	Test-archive/partab/ptb-07
Log file highlights:	**Pt-sda-log.txt:** @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46

	@(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: partab ptb-07 mcmillan serban /dev/sda CC -all -new_log TEST ptb-07 HOST mcmillan OPERATOR serban Comment: Various primary and logical partitions Drive label: CC Partition table Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 008193087 0000/001/01 0509/254/63 0B Fat32 2 P 008193150 008193150 0510/000/01 1019/254/63 83 Linux 3 X 016386300 001863540 1020/000/01 1023/254/63 0F extended 4 S 000000063 000417627 1020/001/01 1023/254/63 06 Fat16 5 x 000417690 000819315 1023/000/01 1023/254/63 05 extended 6 S 000000063 000819252 1023/001/01 1023/254/63 0B Fat32 7 x 001237005 000626535 1023/000/01 1023/254/63 05 extended 8 S 000000063 000626472 1023/001/01 1023/254/63 07 NTFS 9 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 10 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry P primary partition (1-4) S secondary (sub) partition X primary extended partition (1-4) x secondary extended partition run start Sun Apr 3 18:49:45 2005 run finish Sun Apr 3 18:50:03 2005 elapsed time 0:0:18 Normal exit
Expected results:	*Partab* creates a new log file “pt-sda-log.txt”.

	It displays the partition table entry information correctly. It logs all required information.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Ptb-08	
Case summary:	Run *partab* without arguments, with incorrect arguments, with the –h option alone on the command line, and with correct arguments and the –h option. Capture the standard output into a file.
Tester name:	Serban
Test date:	Sun Apr 3 19:12:00 2005
PC:	McMillan
Disks:	None.
Execute:	Run ***partab***: partab > output.txt partab ptb-08 mcmillan serban /dev/sda –logname >> output.txt partab –h >> output.txt partab ptb-08 mcmillan serban /dev/sda CC –all –h >> output.txt
Log files location:	Test-archive/partab/ptb-08
Log file highlights:	**Output.txt:** partab compiled at 19:16:47 on Mar 25 2005 Usage: partab test-case host operator drive label [-options] -all List extended partitions -comment " ... " Comment for log file -new_log Start a new log file (default is append to old log file) -log_name <name> Use a different log file (default is pt-label-log.txt and is written to the current directory) -h Print this option list …
Expected results:	*Partab* displays its usage mode in each case.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

3.2.3 *Diskchg* Test Results Summary

Case Dch-01	
Case summary:	Test the –exam function of *diskchg* on a SCSI disk that was initialized by using the *diskwipe* tool. Use: -the –exam option; -the –comment option with one-word comment.
Tester name:	Serban
Test date:	Sun Apr 3 09:43:11 2005
PC:	McMillan
Disks:	/dev/sda, external label "CC", model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run ***diskchg***: diskchg dch-01 mcmillan serban /dev/sda -exam -comment TestExamineFuntion When prompted, enter LBA and C/H/S addresses for the first, last, and somewhere in the middle, sectors (plus an offset and a length). For example, 0 0 32 0/0/1 0 32 71687369 0 32 4462/84/48 0 32 80388 0 32 5/1/1 0 32 96453 0 32 6/1/1 0 32
Log files location:	Test-archive/diskchg/dch-01
Log file highlights:	**Cg-sda-xlog.txt:** diskchg @(#) diskchg.c Linux Version 1.5 Created 03/15/05 at 17:24:32 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskchg dch-01 mcmillan serban /dev/sda -exam -comment TestExamineFuntion TEST dch-01 HOST mcmillan OPERATOR serban Comment: TestExamineFuntion Target disk Drive /dev/sda

	04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Offset 0 length 32 Disk addr lba 0 C/H/S 0/0/1 offset 0 000: 30 30 30 30 30 2F 30 30 30 2F 30 31 20 30 30 30 016: 30 30 30 30 30 30 30 30 30 00 CC CC CC CC CC CC Offset 0 length 32 Disk addr lba 0 C/H/S 0/0/1 offset 0 000: 30 30 30 30 30 2F 30 30 30 2F 30 31 20 30 30 30 016: 30 30 30 30 30 30 30 30 30 00 CC CC CC CC CC CC Offset 0 length 32 Disk addr lba 71687369 C/H/S 4462/84/48 offset 0 000: 30 34 34 36 32 2F 30 38 34 2F 34 38 20 30 30 30 016: 30 37 31 36 38 37 33 36 39 00 CC CC CC CC CC CC Offset 0 length 32 Disk addr lba 71687369 C/H/S 4462/84/48 offset 0 000: 30 34 34 36 32 2F 30 38 34 2F 34 38 20 30 30 30 016: 30 37 31 36 38 37 33 36 39 00 CC CC CC CC CC CC Offset 0 length 32 Disk addr lba 80388 C/H/S 5/1/1 offset 0 000: 30 30 30 30 35 2F 30 30 31 2F 30 31 20 30 30 30 016: 30 30 30 30 38 30 33 38 38 00 CC CC CC CC CC CC Offset 0 length 32 Disk addr lba 80388 C/H/S 5/1/1 offset 0 000: 30 30 30 30 35 2F 30 30 31 2F 30 31 20 30 30 30 016: 30 30 30 30 38 30 33 38 38 00 CC CC CC CC CC CC Offset 0 length 32 Disk addr lba 96453 C/H/S 6/1/1 offset 0 000: 30 30 30 30 36 2F 30 30 31 2F 30 31 20 30 30 30 016: 30 30 30 30 39 36 34 35 33 00 CC CC CC CC CC CC Offset 0 length 32 Disk addr lba 96453 C/H/S 6/1/1 offset 0 000: 30 30 30 30 36 2F 30 30 31 2F 30 31 20 30 30 30

	016: 30 30 30 30 39 36 34 35 33 00 CC CC CC CC CC CC run start Sun Apr 3 09:43:11 2005 run finish Sun Apr 3 09:44:57 2005 elapsed time 0:1:46 Normal exit
Expected results:	*Diskchg* creates a log file "cg-sda-xlog.txt", whose name reflects the device (/dev/sda in this case) and the function tested (x, i.e., exam). It displays the sectors correctly. It logs all required information.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Dch-02	
Case summary:	Test the –exam function of *diskchg* on a hard disk on the same Linux device as in the previous case (in order to test that *diskchg* appends the log records to an existing log file. Use: -the –exam option; -the –comment option with a multi-word comment.
Tester name:	Serban
Test date:	Sun Apr 3 09:48:54 2005
PC:	McMillan
Disks:	/dev/sda, external label "CC", model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run ***diskchg***: diskchg dch-02 mcmillan serban /dev/sda -exam -comment "Test -exam, append log records" When prompted, enter LBA and C/H/S addresses for sectors at the end of a track and the beginning of the next track.
Log files location:	Test-archive/diskchg/dch-02
Log file highlights:	**Cg-sda-xlog.txt:** -----Log records created in the previous test case, followed by----- diskchg @(#) diskchg.c Linux Version 1.5 Created 03/15/05 at 17:24:32 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46

	@(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskchg dch-02 mcmillan serban /dev/sda -exam -comment Test -exam, append log records TEST dch-02 HOST mcmillan OPERATOR serban Comment: Test -exam, append log records Target disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Offset 0 length 32 Disk addr lba 176714 C/H/S 10/254/63 offset 0 000: 30 30 30 31 30 2F 32 35 34 2F 36 33 20 30 30 30 016: 30 30 30 31 37 36 37 31 34 00 CC CC CC CC CC CC Offset 0 length 32 Disk addr lba 176715 C/H/S 11/0/1 offset 0 000: 30 30 30 31 31 2F 30 30 30 2F 30 31 20 30 30 30 016: 30 30 30 31 37 36 37 31 35 00 CC CC CC CC CC CC Offset 0 length 32 Disk addr lba 176716 C/H/S 11/0/2 offset 0 000: 30 30 30 31 31 2F 30 30 30 2F 30 32 20 30 30 30 016: 30 30 30 31 37 36 37 31 36 00 CC CC CC CC CC CC Offset 0 length 32 Disk addr lba 176714 C/H/S 10/254/63 offset 0 000: 30 30 30 31 30 2F 32 35 34 2F 36 33 20 30 30 30 016: 30 30 30 31 37 36 37 31 34 00 CC CC CC CC CC CC Offset 0 length 32 Disk addr lba 176715 C/H/S 11/0/1 offset 0 000: 30 30 30 31 31 2F 30 30 30 2F 30 31 20 30 30 30 016: 30 30 30 31 37 36 37 31 35 00 CC CC CC CC CC CC Offset 0 length 32 Disk addr lba 176716 C/H/S 11/0/2 offset 0 000: 30 30 30 31 31 2F 30 30 30 2F 30 32 20 30 30 30 016: 30 30 30 31 37 36 37 31 36 00 CC CC CC CC CC CC run start Sun Apr 3 09:48:54 2005 run finish Sun Apr 3 09:51:04 2005

	elapsed time 0:2:10 Normal exit
Expected results:	*Diskchg* appends the log records to the log file "cg-sda-xlog.txt" created in the previous case. It displays the sectors correctly. It logs all required information.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Dch-03	
Case summary:	Test the –exam function of *diskchg* on a hard disk on the same Linux device as in the previous case, in order to test that *diskchg* creates a new log file, although a log file with the same name already exists. Also, test whether *diskchg* detects sector addresses outside the disk range. Use: -the –exam option; -the –new_log option; -an interactive comment.
Tester name:	Serban
Test date:	Sun Apr 3 09:53:27 2005
PC:	McMillan
Disks:	/dev/sda, external label "CC", model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run ***diskchg***: diskchg dch-03 mcmillan serban /dev/sda -exam -new_log When prompted, enter LBA and C/H/S addresses for sectors beyond the end of the disk.
Log files location:	Test-archive/diskchg/dch-03
Log file highlights:	**Cg-sda-xlog.txt:** diskchg @(#) diskchg.c Linux Version 1.5 Created 03/15/05 at 17:24:32 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskchg dch-03 mcmillan serban /dev/sda -exam -new_log TEST dch-03 HOST mcmillan OPERATOR serban Comment: Create new log file, specify sector(s) outside disk

	range Target disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Offset 0 length 32 Disk addr lba 71687370 C/H/S 4462/84/49 offset 0 Disk read error 0x01 at sector 4462/84/49 Offset 0 length 32 Disk addr lba 71687380 C/H/S 4462/84/59 offset 0 Disk read error 0xFFFFFFFF at sector 4462/84/59 Offset 0 length 32 Disk addr lba 72000000 C/H/S 4481/202/10 offset 0 Disk read error 0xFFFFFFFF at sector 4481/202/10 Offset 0 length 32 Disk addr lba 72000000 C/H/S 4481/202/10 offset 0 Disk read error 0xFFFFFFFF at sector 4481/202/10 run start Sun Apr 3 09:53:27 2005 run finish Sun Apr 3 09:56:39 2005 elapsed time 0:3:12 Normal exit
Expected results:	*Diskchg* creates a new log file cg-sda-xlog.txt. It detects the sector addresses that are beyond the disk end and issues some error message. It logs all required information.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Dch-04	
Case summary:	Test the –read function of *diskchg* on a SCSI hard disk. Use: -the –read option with a sector LBA address, offset, and length.
Tester name:	Serban
Test date:	Sun Apr 3 09:59:09 2005

PC:	McMillan
Disks:	/dev/sda, external label “CC”, model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run ***diskchg***: diskchg dch-04 mcmillan serban /dev/sda -read 80388 0 32
Log files location:	Test-archive/diskchg/dch-04
Log file highlights:	**Cg-sda-rlog.txt:** diskchg @(#) diskchg.c Linux Version 1.5 Created 03/15/05 at 17:24:32 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskchg dch-04 mcmillan serban /dev/sda -read 80388 0 32 TEST dch-04 HOST mcmillan OPERATOR serban Comment: Test the -read function Target disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Disk addr lba 80388 C/H/S 5/1/1 offset 0 000: 30 30 30 30 35 2F 30 30 31 2F 30 31 20 30 30 30 016: 30 30 30 30 38 30 33 38 38 00 CC CC CC CC CC CC run start Sun Apr 3 09:59:09 2005 run finish Sun Apr 3 09:59:31 2005 elapsed time 0:0:22 Normal exit
Expected results:	*Diskchg* creates a new log file cg-sda-rlog.txt, whose name reflects the function used (“r”) and the Linux device. *Diskchg* displays the sector content correctly. It logs all required information.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Dch-05	
Case summary:	Test the –read function of *diskchg* on a SCSI hard disk. Use: -the –read option with a sector C/H/S address, but with an offset too large; -the –new_log option.
Tester name:	Serban
Test date:	Sun Apr 3 10:00:57 2005
PC:	McMillan
Disks:	/dev/sda, external label “CC”, model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run ***diskchg***: diskchg dch-05 mcmillan serban /dev/sda -new_log -read 5/1/1 640 32
Log files location:	Test-archive/diskchg/dch-05
Log file highlights:	**Cg-sda-rlog.txt:** diskchg @(#) diskchg.c Linux Version 1.5 Created 03/15/05 at 17:24:32 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskchg dch-05 mcmillan serban /dev/sda -new_log -read 5/1/1 640 32 TEST dch-05 HOST mcmillan OPERATOR serban Comment: Test -read, sector C/H/S, offset too large Target disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Offset 640 not valid ([0..511]), reset to 0 Disk addr lba 80388 C/H/S 5/1/1 offset 0 000: 30 30 30 30 35 2F 30 30 31 2F 30 31 20 30 30 30 016: 30 30 30 30 38 30 33 38 38 00 CC CC CC CC CC CC run start Sun Apr 3 10:00:57 2005 run finish Sun Apr 3 10:01:31 2005

	elapsed time 0:0:34 Normal exit
Expected results:	*Diskchg* creates a new log file cg-sda-rlog.txt. *Diskchg* detects the offset too large, sets it to zero, and displays the sector content correctly. It logs all required information.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Dch-06	
Case summary:	Test the –read function of *diskchg* on a SCSI hard disk. Use: -the –read option with a sector C/H/S address, but with a length too large; -the –new_log option.
Tester name:	Serban
Test date:	Sun Apr 3 10:05:41 2005
PC:	McMillan
Disks:	/dev/sda, external label “CC”, model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run ***diskchg***: diskchg dch-06 mcmillan serban /dev/sda -read 5/1/1 0 1024 -new_log
Log files location:	Test-archive/diskchg/dch-06
Log file highlights:	**Cg-sda-rlog.txt:** diskchg @(#) diskchg.c Linux Version 1.5 Created 03/15/05 at 17:24:32 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskchg dch-06 mcmillan serban /dev/sda -read 5/1/1 0 1024 -new_log TEST dch-06 HOST mcmillan OPERATOR serban Comment: Test -read, length too large Target disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors

	Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Length (512) not valid ([1..1024]); resetting to 16 Disk addr lba 80388 C/H/S 5/1/1 offset 0 000: 30 30 30 30 35 2F 30 30 31 2F 30 31 20 30 30 30 run start Sun Apr 3 10:05:41 2005 run finish Sun Apr 3 10:06:01 2005 elapsed time 0:0:20 Normal exit
Expected results:	*Diskchg* creates a new log file cg-sda-rlog.txt. *Diskchg* detects the length too large, resets it to an acceptable value, and displays the sector content. It logs all required information.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Dch-07	
Case summary:	Test the –read function of *diskchg* on a SCSI hard disk. Use: -the –read option with a sector C/H/S address, with valid offset and length, but with offset+length too large; -the –new_log option.
Tester name:	Serban
Test date:	Sun Apr 3 10:07:15 2005
PC:	McMillan
Disks:	/dev/sda, external label “CC”, model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run ***diskchg***: diskchg dch-07 mcmillan serban /dev/sda -read 5/1/1 256 400 -new_log
Log files location:	Test-archive/diskchg/dch-07
Log file highlights:	**Cg-sda-rlog.txt:** diskchg @(#) diskchg.c Linux Version 1.5 Created 03/15/05 at 17:24:32 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskchg dch-07 mcmillan serban /dev/sda -read 5/1/1 256 400 -

	new_log TEST dch-07 HOST mcmillan OPERATOR serban Comment: Test -read, offset+length too large Target disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Length (400) goes past end of sector (656); resetting to end of sector Disk addr lba 80388 C/H/S 5/1/1 offset 256 256: CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC 272: CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC 288: CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC 304: CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC 320: CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC 336: CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC 352: CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC 368: CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC 384: CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC 400: CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC 416: CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC 432: CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC 448: CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC 464: CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC 480: CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC 496: CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC run start Sun Apr 3 10:07:15 2005 run finish Sun Apr 3 10:07:30 2005 elapsed time 0:0:15 Normal exit
Expected results:	*Diskchg* creates a new log file cg-sda-rlog.txt. *Diskchg* detects the length+offset is too large, and displays the sector content from the specified offset up to the sector end. It logs all required information.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Dch-08	
Case summary:	Test the –read function of *diskchg* on a SCSI hard disk. Use: -the –read option with an invalid sector address;

	-the –new_log option.
Tester name:	Serban
Test date:	Sun Apr 3 10:08:59 2005
PC:	McMillan
Disks:	/dev/sda, external label “CC”, model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run ***diskchg***: diskchg dch-08 mcmillan serban /dev/sda -new_log -read 71687370 0 512
Log files location:	Test-archive/diskchg/dch-08
Log file highlights:	**Cg-sda-rlog.txt:** diskchg @(#) diskchg.c Linux Version 1.5 Created 03/15/05 at 17:24:32 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskchg dch-08 mcmillan serban /dev/sda -new_log -read 71687370 0 512 TEST dch-08 HOST mcmillan OPERATOR serban Comment: Try reading beyond disk range Target disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Disk addr lba 71687370 C/H/S 4462/84/49 offset 0 Disk read error 0x01 at sector 4462/84/49 run start Sun Apr 3 10:08:59 2005 run finish Sun Apr 3 10:09:15 2005 elapsed time 0:0:16 Normal exit
Expected results:	*Diskchg* creates a new log file cg-sda-rlog.txt. *Diskchg* detects the sector address is too large and issues an error message. It logs all required information.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Dch-09	
Case summary:	Test the –fill function of *diskchg* on a SCSI hard disk. Use: -the –fill option with the automatically detected geometry; -the –new_log option.
Tester name:	Serban
Test date:	Sun Apr 3 10:13:21 2005
PC:	McMillan
Disks:	/dev/sda, external label "CC", model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run ***diskchg*** three times: 1) to read original sector content; 2) to fill the sector as another sector; and 3) to read the modified sector: diskchg dch-09 mcmillan serban /dev/sda -new_log -read 5/1/1 0 32 diskchg dch-09 mcmillan serban /dev/sda -new_log -fill 5/1/1 6/1/1 0 BB diskchg dch-09 mcmillan serban /dev/sda -read 5/1/1 0 32
Log files location:	Test-archive/diskchg/dch-09
Log file highlights:	**Cg-sda-flog.txt:** diskchg @(#) diskchg.c Linux Version 1.5 Created 03/15/05 at 17:24:32 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskchg dch-09 mcmillan serban /dev/sda -new_log -fill 5/1/1 6/1/1 0 BB TEST dch-09 HOST mcmillan OPERATOR serban Comment: Fill dst sector as src sector in detected geometry Target disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Disk addr lba 80388 C/H/S 5/1/1 Using 255 heads

	Fill addr lba 96453 C/H/S 6/1/1 Fill sector 5/1/1 OK run start Sun Apr 3 10:13:21 2005 run finish Sun Apr 3 10:13:47 2005 elapsed time 0:0:26 Normal exit **Cg-sda-rlog.txt:** diskchg @(#) diskchg.c Linux Version 1.5 Created 03/15/05 at 17:24:32 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskchg dch-09 mcmillan serban /dev/sda -new_log -read 5/1/1 0 32 TEST dch-09 HOST mcmillan OPERATOR serban Comment: Read original dst sector Target disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Disk addr lba 80388 C/H/S 5/1/1 offset 0 000: 30 30 30 30 35 2F 30 30 31 2F 30 31 20 30 30 30 016: 30 30 30 30 38 30 33 38 38 00 CC CC CC CC CC CC run start Sun Apr 3 10:12:42 2005 run finish Sun Apr 3 10:12:52 2005 elapsed time 0:0:10 Normal exit diskchg @(#) diskchg.c Linux Version 1.5 Created 03/15/05 at 17:24:32 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskchg dch-09 mcmillan serban /dev/sda -read 5/1/1 0 32 TEST dch-09 HOST mcmillan OPERATOR serban Comment: Read modified dst sector

	Target disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Disk addr lba 80388 C/H/S 5/1/1 offset 0 000: 30 30 30 30 36 2F 30 30 31 2F 30 31 20 30 30 30 016: 30 30 30 30 39 36 34 35 33 00 BB BB BB BB BB BB run start Sun Apr 3 10:14:06 2005 run finish Sun Apr 3 10:14:22 2005 elapsed time 0:0:16 Normal exit
Expected results:	*Diskchg* creates a new log file cg-sda-flog.txt, whose name reflects the function we test ("f") and the Linux device. *Diskchg* fills the specified sector as it would fill the second specified sector in the detected geometry. It logs all required information.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Dch-10	
Case summary:	Test the –fill function of *diskchg* on a SCSI hard disk. Use: -the –fill option with the detected geometry specified explicitly (this is the only difference from Dch-09); -the –new_log option.
Tester name:	Serban
Test date:	Sun Apr 3 10:19:40 2005
PC:	McMillan
Disks:	/dev/sda, external label "CC", model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run ***diskchg*** three times: 1) to read original sector content; 2) to fill the sector as another sector; and 3) to read the modified sector: diskchg dch-10 mcmillan serban /dev/sda -read 5/1/1 0 32 diskchg dch-10 mcmillan serban /dev/sda -new_log -fill 5/1/1 6/1/1 255 AA diskchg dch-10 mcmillan serban /dev/sda -read 5/1/1 0 32
Log files location:	Test-archive/diskchg/dch-10

Log file highlights:	**Cg-sda-flog.txt:** diskchg @(#) diskchg.c Linux Version 1.5 Created 03/15/05 at 17:24:32 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskchg dch-10 mcmillan serban /dev/sda -new_log -fill 5/1/1 6/1/1 255 AA TEST dch-10 HOST mcmillan OPERATOR serban Comment: Fill dst sector, new geometry exactly as the old one (255 heads) Target disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Disk addr lba 80388 C/H/S 5/1/1 Using 255 heads Fill addr lba 96453 C/H/S 6/1/1 Fill sector 5/1/1 OK run start Sun Apr 3 10:19:40 2005 run finish Sun Apr 3 10:20:09 2005 elapsed time 0:0:29 Normal exit **Cg-sda-rlog.txt:** diskchg @(#) diskchg.c Linux Version 1.5 Created 03/15/05 at 17:24:32 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskchg dch-10 mcmillan serban /dev/sda -read 5/1/1 0 32 TEST dch-10 HOST mcmillan OPERATOR serban Comment: Read original dst sector

	Target disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Disk addr lba 80388 C/H/S 5/1/1 offset 0 000: 30 30 30 30 35 2F 30 30 31 2F 30 31 20 30 30 30 016: 30 30 30 30 38 30 33 38 38 00 CC CC CC CC CC CC run start Sun Apr 3 10:17:29 2005 run finish Sun Apr 3 10:17:38 2005 elapsed time 0:0:9 Normal exit diskchg @(#) diskchg.c Linux Version 1.5 Created 03/15/05 at 17:24:32 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskchg dch-10 mcmillan serban /dev/sda -read 5/1/1 0 32 TEST dch-10 HOST mcmillan OPERATOR serban Comment: Read modified sector Target disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Disk addr lba 80388 C/H/S 5/1/1 offset 0 000: 30 30 30 30 36 2F 30 30 31 2F 30 31 20 30 30 30 016: 30 30 30 30 39 36 34 35 33 00 AA AA AA AA AA AA run start Sun Apr 3 10:20:22 2005 run finish Sun Apr 3 10:20:36 2005 elapsed time 0:0:14 Normal exit
Expected results:	*Diskchg* creates a new log file cg-sda-flog.txt, whose name reflects the tested function (“f”) and the Linux device. *Diskchg* fills the specified sector as it would fill the second specified sector in the specified geometry.

	It logs all required information.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Dch-11	
Case summary:	Test the –fill function of *diskchg* on a SCSI hard disk. Use: -the –fill option with a geometry different from the one detected; -the –new_log option.
Tester name:	Serban
Test date:	Sun Apr 3 10:26:04 2005
PC:	McMillan
Disks:	/dev/sda, external label “CC”, model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run ***diskchg*** three times: 1) to read original sector content; 2) to fill the sector as another sector in the new geometry; and 3) to read the modified sector: diskchg dch-11 mcmillan serban /dev/sda -read 5/1/1 0 32 diskchg dch-11 mcmillan serban /dev/sda -new_log -fill 5/1/1 6/1/1 200 DD diskchg dch-11 mcmillan serban /dev/sda -read 5/1/1 0 32
Log files location:	Test-archive/diskchg/dch-11
Log file highlights:	**Cg-sda-flog.txt:** diskchg @(#) diskchg.c Linux Version 1.5 Created 03/15/05 at 17:24:32 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskchg dch-11 mcmillan serban /dev/sda -new_log -fill 5/1/1 6/1/1 200 DD TEST dch-11 HOST mcmillan OPERATOR serban Comment: Fill dst sector as src sector in a new geometry (200 heads) Target disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial #

	(3DE03HL300008110CEHF) Disk addr lba 80388 C/H/S 5/1/1 Using 200 heads Fill addr lba 75663 C/H/S 6/1/1 Fill sector 5/1/1 OK run start Sun Apr 3 10:26:04 2005 run finish Sun Apr 3 10:26:22 2005 elapsed time 0:0:18 Normal exit **Cg-sda-rlog.txt:** diskchg @(#) diskchg.c Linux Version 1.5 Created 03/15/05 at 17:24:32 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskchg dch-11 mcmillan serban /dev/sda -read 5/1/1 0 32 TEST dch-11 HOST mcmillan OPERATOR serban Comment: Read original dst sector Target disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Disk addr lba 80388 C/H/S 5/1/1 offset 0 000: 30 30 30 30 35 2F 30 30 31 2F 30 31 20 30 30 30 016: 30 30 30 30 38 30 33 38 38 00 CC CC CC CC CC CC run start Sun Apr 3 10:25:32 2005 run finish Sun Apr 3 10:25:40 2005 elapsed time 0:0:8 Normal exit diskchg @(#) diskchg.c Linux Version 1.5 Created 03/15/05 at 17:24:32 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12

	support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskchg dch-11 mcmillan serban /dev/sda -read 5/1/1 0 32 TEST dch-11 HOST mcmillan OPERATOR serban Comment: Read modified dst sector Target disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Disk addr lba 80388 C/H/S 5/1/1 offset 0 000: 30 30 30 30 36 2F 30 30 31 2F 30 31 20 30 30 30 016: 30 30 30 30 37 35 36 36 33 00 DD DD DD DD DD DD run start Sun Apr 3 10:26:43 2005 run finish Sun Apr 3 10:26:58 2005 elapsed time 0:0:15 Normal exit
Expected results:	*Diskchg* creates a new log file cg-sda-flog.txt, whose name reflects the tested function ("f") and the Linux device. *Diskchg* fills the specified sector as it would fill the second specified sector in the specified geometry. It logs all required information.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Dch-12	
Case summary:	Test the –write function of *diskchg* on a SCSI hard disk with the sector address specified in LBA format. Use: -the –write option to modify a byte at a specified offset in a sector specified by its LBA address; -the –new_log option.
Tester name:	Serban
Test date:	Sun Apr 3 10:33:51 2005
PC:	McMillan
Disks:	/dev/sda, external label "CC", model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run ***diskchg*** three times: 1) to read original sector content; 2) to fill the sector as another sector in the new geometry; and 3)

	to read the modified sector: diskchg dch-12 mcmillan serban /dev/sda –new_log -read 80388 0 32 diskchg dch-12 mcmillan serban /dev/sda -new_log -write 80388 26 CE diskchg dch-12 mcmillan serban /dev/sda -read 80388 0 32
Log files location:	Test-archive/diskchg/dch-12
Log file highlights:	**Cg-sda-wlog.txt:** diskchg @(#) diskchg.c Linux Version 1.5 Created 03/15/05 at 17:24:32 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskchg dch-12 mcmillan serban /dev/sda -new_log -write 80388 26 CE TEST dch-12 HOST mcmillan OPERATOR serban Comment: Change one byte Target disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Disk addr lba 80388 C/H/S 5/1/1 offset 26 Update sector, old value 0xCC, new value 0xCE run start Sun Apr 3 10:33:51 2005 run finish Sun Apr 3 10:34:01 2005 elapsed time 0:0:10 Normal exit **Cg-sda-rlog.txt:** diskchg @(#) diskchg.c Linux Version 1.5 Created 03/15/05 at 17:24:32 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskchg dch-12 mcmillan serban /dev/sda -new_log -read 80388 0 32

	TEST dch-12 HOST mcmillan OPERATOR serban Comment: Read original sector Target disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Disk addr lba 80388 C/H/S 5/1/1 offset 0 000: 30 30 30 30 35 2F 30 30 31 2F 30 31 20 30 30 30 016: 30 30 30 30 38 30 33 38 38 00 CC CC CC CC CC CC run start Sun Apr 3 10:33:19 2005 run finish Sun Apr 3 10:33:26 2005 elapsed time 0:0:7 Normal exit diskchg @(#) diskchg.c Linux Version 1.5 Created 03/15/05 at 17:24:32 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskchg dch-12 mcmillan serban /dev/sda -read 80388 0 32 TEST dch-12 HOST mcmillan OPERATOR serban Comment: Read modified sector Target disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Disk addr lba 80388 C/H/S 5/1/1 offset 0 000: 30 30 30 30 35 2F 30 30 31 2F 30 31 20 30 30 30 016: 30 30 30 30 38 30 33 38 38 00 CE CC CC CC CC CC run start Sun Apr 3 10:34:12 2005 run finish Sun Apr 3 10:34:18 2005 elapsed time 0:0:6 Normal exit
Expected results:	*Diskchg* creates a new log file cg-sda-wlog.txt, whose name

	reflects the tested function ("w") and the Linux device. *Diskchg* modifies the byte at the specified offset in the specified sector. All other bytes remain unchanged. It logs all required information.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Dch-13	
Case summary:	Test the –write function of *diskchg* on a SCSI hard disk, with the sector address specified in the C/H/S format. Use: -the –write option to modify a byte at a specified offset in a sector specified by its C/H/S address; -the –new_log option.
Tester name:	Serban
Test date:	Sun Apr 3 10:38:31 2005
PC:	McMillan
Disks:	/dev/sda, external label "CC", model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run ***diskchg*** three times: 1) to read original sector content; 2) to fill the sector as another sector in the new geometry; and 3) to read the modified sector: diskchg dch-13 mcmillan serban /dev/sda –new_log -read 5/1/1 0 32 diskchg dch-13 mcmillan serban /dev/sda -new_log -write 5/1/1 26 CE diskchg dch-13 mcmillan serban /dev/sda -read 5/1/1 0 32
Log files location:	Test-archive/diskchg/dch-13
Log file highlights:	**Cg-sda-wlog.txt:** diskchg @(#) diskchg.c Linux Version 1.5 Created 03/15/05 at 17:24:32 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskchg dch-13 mcmillan serban /dev/sda -new_log -write 5/1/1 26 CE TEST dch-13 HOST mcmillan OPERATOR serban Comment: Modify one byte, C/H/S Target disk Drive /dev/sda 04461/254/63 (max cyl/hd values)

	04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Disk addr lba 80388 C/H/S 5/1/1 offset 26 Update sector, old value 0xCC, new value 0xCE run start Sun Apr 3 10:38:31 2005 run finish Sun Apr 3 10:38:40 2005 elapsed time 0:0:9 Normal exit **Cg-sda-rlog.txt:** diskchg @(#) diskchg.c Linux Version 1.5 Created 03/15/05 at 17:24:32 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskchg dch-13 mcmillan serban /dev/sda -new_log -read 5/1/1 0 32 TEST dch-13 HOST mcmillan OPERATOR serban Comment: Read original sector, C/H/S Target disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Disk addr lba 80388 C/H/S 5/1/1 offset 0 000: 30 30 30 30 35 2F 30 30 31 2F 30 31 20 30 30 30 016: 30 30 30 30 38 30 33 38 38 00 CC CC CC CC CC CC run start Sun Apr 3 10:38:05 2005 run finish Sun Apr 3 10:38:15 2005 elapsed time 0:0:10 Normal exit diskchg @(#) diskchg.c Linux Version 1.5 Created 03/15/05 at 17:24:32 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12

	support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskchg dch-13 mcmillan serban /dev/sda -read 5/1/1 0 32 TEST dch-13 HOST mcmillan OPERATOR serban Comment: Read modified sector, C/H/S Target disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Disk addr lba 80388 C/H/S 5/1/1 offset 0 000: 30 30 30 30 35 2F 30 30 31 2F 30 31 20 30 30 30 016: 30 30 30 30 38 30 33 38 38 00 CE CC CC CC CC CC run start Sun Apr 3 10:38:49 2005 run finish Sun Apr 3 10:38:58 2005 elapsed time 0:0:9 Normal exit
Expected results:	*Diskchg* creates a new log file cg-sda-wlog.txt, whose name reflects the tested function ("w") and the Linux device. *Diskchg* modifies the byte at the specified offset in the specified sector. All other bytes remain unchanged. It logs all required information.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Dch-14	
Case summary:	Test the –write function of *diskchg* on a SCSI hard disk, with the sector address specified in the C/H/S format and an invalid offset. Use: -the –write option to modify a byte at an invalid offset in a sector specified by its C/H/S address; -the –new_log option.
Tester name:	Serban
Test date:	Sun Apr 3 10:41:00 2005
PC:	McMillan
Disks:	/dev/sda, external label "CC", model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run ***diskchg***:

	diskchg dch-14 mcmillan serban /dev/sda -new_log -write 5/1/1 640 CF
Log files location:	Test-archive/diskchg/dch-14
Log file highlights:	**Cg-sda-wlog.txt:** diskchg @(#) diskchg.c Linux Version 1.5 Created 03/15/05 at 17:24:32 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskchg dch-14 mcmillan serban /dev/sda -new_log -write 5/1/1 640 CF TEST dch-14 HOST mcmillan OPERATOR serban Comment: Try to write at offset too large Target disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Offset 640 not valid ([0..511])
Expected results:	*Diskchg* creates a new log file cg-sda-wlog.txt, whose name reflects the tested function (“w”) and the Linux device. *Diskchg* detects the invalid offset and rejects the request with an error message.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Dch-15	
Case summary:	Test the –write function of *diskchg* on a SCSI hard disk, with the sector address outside the disk range. Use: -the –write option with a byte address beyond the disk end; -the –new_log option.
Tester name:	Serban
Test date:	Sun Apr 3 10:42:18 2005
PC:	McMillan
Disks:	/dev/sda, external label “CC”, model ST336705LC, serial # 3DE03HL300008110CEHF.

Execute:	Run ***diskchg***: diskchg dch-15 mcmillan serban /dev/sda -new_log -write 71687370 26 DD
Log files location:	Test-archive/diskchg/dch-15
Log file highlights:	**Cg-sda-wlog.txt:** diskchg @(#) diskchg.c Linux Version 1.5 Created 03/15/05 at 17:24:32 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskchg dch-15 mcmillan serban /dev/sda -new_log -write 71687370 26 DD TEST dch-15 HOST mcmillan OPERATOR serban Comment: Try to write to a sector outside range Target disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Disk addr lba 71687370 C/H/S 4462/84/49 offset 26 read for update failed run start Sun Apr 3 10:42:18 2005 run finish Sun Apr 3 10:42:32 2005 elapsed time 0:0:14 Normal exit
Expected results:	*Diskchg* creates a new log file cg-sda-wlog.txt, whose name reflects the tested function (“w”) and the Linux device. *Diskchg* detects the invalid sector address and issues an error message.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Dch-16	
Case summary:	Test the –zero function of *diskchg* on a IDE hard disk, with the first sector address specified in the LBA format. Use: -the –zero option with a byte address of 0 (first sector).

Tester name:	Serban
Test date:	Sun Apr 3 10:47:15 2005
PC:	McMillan
Disks:	/dev/hdb, external label “7F”, model MAXTOR 6L040J2, serial # 662201137770.
Execute:	Run ***diskchg***: diskchg dch-16 mcmillan serban /dev/hdb -zero 0
Log files location:	Test-archive/diskchg/dch-16
Log file highlights:	**Cg-hdb-zlog.txt:** diskchg @(#) diskchg.c Linux Version 1.5 Created 03/15/05 at 17:24:32 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskchg dch-16 mcmillan serban /dev/hdb -zero 0 TEST dch-16 HOST mcmillan OPERATOR serban Comment: Zero first sector Target disk Drive /dev/hdb 04865/254/63 (max cyl/hd values) 04866/255/63 (number of cyl/hd) 78177792 total number of sectors IDE disk: Model (MAXTOR 6L040J2) serial # (662201137770) Disk addr lba 0 C/H/S 0/0/1 Zero sector 0 OK run start Sun Apr 3 10:47:15 2005 run finish Sun Apr 3 10:47:22 2005 elapsed time 0:0:7 Normal exit
Expected results:	*Diskchg* creates a new log file cg-hdb-zlog.txt, whose name reflects the tested function (“z”) and the Linux device /dev/hdb. *Diskchg* zeroes the first sector of the disk. It logs all the required information correctly.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Dch-17	
Case summary:	Test the –zero function of *diskchg* on an IDE hard disk, with the last sector address specified in the C/H/S format, and an alternate log file name specified by using the –log_name option.
Tester name:	Serban
Test date:	Sun Apr 3 10:52:19 2005
PC:	McMillan
Disks:	/dev/hdb, external label "7F", model MAXTOR 6L040J2, serial # 662201137770.
Execute:	Run ***diskchg***: diskchg dch-17 mcmillan serban /dev/hdb -new_log -log_name zerolog.txt -zero 4866/87/21
Log files location:	Test-archive/diskchg/dch-17
Log file highlights:	**zerolog.txt:** diskchg @(#) diskchg.c Linux Version 1.5 Created 03/15/05 at 17:24:32 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskchg dch-17 mcmillan serban /dev/hdb -new_log -log_name zerolog.txt -zero 4866/87/21 TEST dch-17 HOST mcmillan OPERATOR serban Comment: Zero last sector, C/H/S, alternate log file name Target disk Drive /dev/hdb 04865/254/63 (max cyl/hd values) 04866/255/63 (number of cyl/hd) 78177792 total number of sectors IDE disk: Model (MAXTOR 6L040J2) serial # (662201137770) Disk addr lba 78177791 C/H/S 4866/87/21 Zero sector 4866/87/21 OK run start Sun Apr 3 10:52:19 2005 run finish Sun Apr 3 10:52:44 2005 elapsed time 0:0:25 Normal exit
Expected results:	*Diskchg* creates a new log file zerolog.txt, as specified in the –log_name option.

	Diskchg zeroes the last sector of the disk. It logs all the required information correctly.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Dch-18	
Case summary:	Test the –zero function of *diskchg* on an IDE hard disk, with an arbitrary sector address specified in the LBA format, the same alternate log file name specified in the previous case by using the –log_name option, and the –new_log option.
Tester name:	Serban
Test date:	Sun Apr 3 10:58:42 2005
PC:	McMillan
Disks:	/dev/hdb, external label "7F", model MAXTOR 6L040J2, serial # 662201137770.
Execute:	Run ***diskchg***: diskchg dch-18 mcmillan serban /dev/hdb -new_log -log_name zerolog.txt -zero 80388
Log files location:	Test-archive/diskchg/dch-18
Log file highlights:	**zerolog.txt:** diskchg @(#) diskchg.c Linux Version 1.5 Created 03/15/05 at 17:24:32 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskchg dch-18 mcmillan serban /dev/hdb -new_log -log_name zerolog.txt -zero 80388 TEST dch-18 HOST mcmillan OPERATOR serban Comment: Zero sector, create new alternate log file even if it exists Target disk Drive /dev/hdb 04865/254/63 (max cyl/hd values) 04866/255/63 (number of cyl/hd) 78177792 total number of sectors IDE disk: Model (MAXTOR 6L040J2) serial # (662201137770) Disk addr lba 80388 C/H/S 5/1/1 Zero sector 80388 OK

	run start Sun Apr 3 10:58:42 2005 run finish Sun Apr 3 10:59:20 2005 elapsed time 0:0:38 Normal exit
Expected results:	*Diskchg* creates a new log file zerolog.txt, although a log file with the same name already exists. *Diskchg* zeroes the specified sector of the disk. It logs all the required information correctly.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Dch-19	
Case summary:	Test the –zero function of *diskchg* on an IDE hard disk, with an invalid LBA sector address.
Tester name:	Serban
Test date:	Sun Apr 3 11:03:35 2005
PC:	McMillan
Disks:	/dev/hdb, external label "7F", model MAXTOR 6L040J2, serial # 662201137770.
Execute:	Run ***diskchg***: diskchg dch-19 mcmillan serban /dev/hdb -new_log -zero 78177792
Log files location:	Test-archive/diskchg/dch-19
Log file highlights:	**Cg-hdb-zlog.txt:** diskchg @(#) diskchg.c Linux Version 1.5 Created 03/15/05 at 17:24:32 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskchg dch-19 mcmillan serban /dev/hdb -new_log -zero 78177792 TEST dch-19 HOST mcmillan OPERATOR serban Comment: Try to zero a sector outside range Target disk Drive /dev/hdb 04865/254/63 (max cyl/hd values) 04866/255/63 (number of cyl/hd) 78177792 total number of sectors IDE disk: Model (MAXTOR 6L040J2) serial # (662201137770)

	Zero 78177792 failed run start Sun Apr 3 11:03:35 2005 run finish Sun Apr 3 11:03:44 2005 elapsed time 0:0:9 Normal exit
Expected results:	*Diskchg* creates a new log file cg-hdb-zlog.txt that reflects the function we test and the Linux device /dev/hdb. It detects the invalid sector address and issues an error message. It logs all the required information correctly.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Dch-20	
Case summary:	Test the –read function of *diskchg* on a SATA hard disk drive of large capacity, for the first sector, last sector, and a sector with an invalid LBA address.
Tester name:	Serban
Test date:	Tue Mar 29 14:33:35 2005
PC:	Frank
Disks:	/dev/sdb, external label “10B”, model WDC WD2500JD-22F, serial # WD-WMAEH2677545.
Execute:	Run ***diskchg*** three times: to read first sector, last sector, and a sector with invalid address: diskchg dch-20 frank serban /dev/sdb -read 0 0 32 diskchg dch-20 frank serban /dev/sdb -read 488397167 0 32 diskchg dch-20 frank serban /dev/sdb -read 488397168 0 32
Log files location:	Test-archive/diskchg/dch-20
Log file highlights:	**Cg-sdb-rlog.txt:** **diskchg** @(#) diskchg.c Linux Version 1.5 Created 03/15/05 at 17:24:32 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskchg dch-20 frank serban /dev/sdb -read 0 0 32 TEST dch-20 HOST frank OPERATOR serban Comment: Read sector 0 of SATA disk Target disk Drive /dev/sdb 30400/254/63 (max cyl/hd values) 30401/255/63 (number of cyl/hd)

	488397168 total number of sectors Non-IDE disk Model (WDC WD2500JD-22F) serial # (WD-WMAEH2677545) Disk addr lba 0 C/H/S 0/0/1 offset 0 000: 30 30 30 30 30 2F 30 30 30 2F 30 31 20 30 30 30 016: 30 30 30 30 30 30 30 30 30 00 AA AA AA AA AA AA run start Tue Mar 29 14:33:35 2005 run finish Tue Mar 29 14:33:48 2005 elapsed time 0:0:13 Normal exit **diskchg** @(#) diskchg.c Linux Version 1.5 Created 03/15/05 at 17:24:32 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskchg dch-20 frank serban /dev/sdb -read 488397167 0 32 TEST dch-20 HOST frank OPERATOR serban Comment: Read last sector of SATA disk Target disk Drive /dev/sdb 30400/254/63 (max cyl/hd values) 30401/255/63 (number of cyl/hd) 488397168 total number of sectors Non-IDE disk Model (WDC WD2500JD-22F) serial # (WD-WMAEH2677545) Disk addr lba 488397167 C/H/S 30401/80/63 offset 0 000: 33 30 34 30 31 2F 30 38 30 2F 36 33 20 30 30 30 016: 34 38 38 33 39 37 31 36 37 00 AA AA AA AA AA AA run start Tue Mar 29 14:34:12 2005 run finish Tue Mar 29 14:34:22 2005 elapsed time 0:0:10 Normal exit **diskchg** @(#) diskchg.c Linux Version 1.5 Created 03/15/05 at 17:24:32 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12

	support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskchg dch-20 frank serban /dev/sdb -read 488397168 0 32 TEST dch-20 HOST frank OPERATOR serban Comment: Read sector beyond disk range Target disk Drive /dev/sdb 30400/254/63 (max cyl/hd values) 30401/255/63 (number of cyl/hd) 488397168 total number of sectors Non-IDE disk Model (WDC WD2500JD-22F) serial # (WD-WMAEH2677545) Disk addr lba 488397168 C/H/S 30401/81/1 offset 0 Disk read error 0x01 at sector 30401/81/1 run start Tue Mar 29 14:35:40 2005 run finish Tue Mar 29 14:35:50 2005 elapsed time 0:0:10 Normal exit
Expected results:	*Diskchg* creates a new log file cg-sdb-rlog.txt that reflects the function we test and the Linux device /dev/sdb corresponding to the SATA disk. It reads and displays correctly the first and the last sectors of the disk, detects the invalid sector address in the third command, and issues an error message. It logs all the required information correctly.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Dch-21	
Case summary:	Test the –write function of *diskchg* on a SATA hard disk drive of large capacity, for the first sector and last sector.
Tester name:	Serban
Test date:	Tue Mar 29 14:38:42 2005
PC:	Frank
Disks:	/dev/sdb, external label “10B”, model WDC WD2500JD-22F, serial # WD-WMAEH2677545.
Execute:	Run ***diskchg*** twice: to modify a byte of the first sector, then the last sector: diskchg dch-21 frank serban /dev/sdb -write 0 30 BB diskchg dch-21 frank serban /dev/sdb -write 488397167 30 BB

Log files location:	Test-archive/diskchg/dch-21
Log file highlights:	**Cg-sdb-wlog.txt:** **diskchg** @(#) diskchg.c Linux Version 1.5 Created 03/15/05 at 17:24:32 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskchg dch-21 frank serban /dev/sdb -write 0 30 BB TEST dch-21 HOST frank OPERATOR serban Comment: Write sector 0 of SATA disk Target disk Drive /dev/sdb 30400/254/63 (max cyl/hd values) 30401/255/63 (number of cyl/hd) 488397168 total number of sectors Non-IDE disk Model (WDC WD2500JD-22F) serial # (WD-WMAEH2677545) Disk addr lba 0 C/H/S 0/0/1 offset 30 Update sector, old value 0xAA, new value 0xBB run start Tue Mar 29 14:38:42 2005 run finish Tue Mar 29 14:38:51 2005 elapsed time 0:0:9 Normal exit **diskchg** @(#) diskchg.c Linux Version 1.5 Created 03/15/05 at 17:24:32 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskchg dch-21 frank serban /dev/sdb -write 488397167 30 BB TEST dch-21 HOST frank OPERATOR serban Comment: Write last sector of SATA disk Target disk Drive /dev/sdb 30400/254/63 (max cyl/hd values) 30401/255/63 (number of cyl/hd) 488397168 total number of sectors Non-IDE disk Model (WDC WD2500JD-22F) serial # (WD-

	WMAEH2677545) Disk addr lba 488397167 C/H/S 30401/80/63 offset 30 Update sector, old value 0xAA, new value 0xBB run start Tue Mar 29 14:39:10 2005 run finish Tue Mar 29 14:39:17 2005 elapsed time 0:0:7 Normal exit
Expected results:	*Diskchg* creates a new log file cg-sdb-wlog.txt that reflects the function we test and the Linux device /dev/sdb corresponding to the SATA disk. It modifies the specified bytes in the first and last disk sectors. It logs all the required information correctly.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Dch-22	
Case summary:	Test whether *diskchg* displays its usage mode when using the –h option or incorrect arguments.
Tester name:	Serban
Test date:	Tue Mar 29 14:38:42 2005
PC:	McMillan.
Disks:	None.
Execute:	Run ***diskchg*** four times: with no arguments, with incorrect arguments, with the –h option alone on the command line, and with correct arguments plus the –h option. Capture the standard output in each case into a file: diskchg > output.txt diskchg dch-22 mcmillan serban –read –logname>> output.txt diskchg –h >> output.txt diskchg dch-22 mcmillan serban /dev/sda –read 123456 0 32 –h >> output.txt
Log files location:	Test-archive/diskchg/dch-22
Log file highlights:	**Output.txt:** diskchg compiled at 19:16:47 on Mar 25 2005 diskchg: select exactly one of: -read, -write, -zero, -fill or -exam Usage: diskchg test-case host operator drive [-options] -comment " ... " Give comment on command line -exam Prompt for sectors to print -read addr offset length Print <length> bytes starting at

	<offset> from sector at <addr> -write addr offset new_value Replace byte at <offset> in sector at <addr> with <new_value> (in hex) -fill addr fill_addr heads new_value Fill sector at <addr> in DISKWIPE style for address <fill_addr> using a disk geometry of <heads> heads with fill byte of <new_value> (in hex) if <heads> is zero, then number of heads on disk is used -zero addr Set all bytes of sector at <addr> to zero <addr> can be specified as either an LBA address (an integer) or as cylinder/head/sector (three slash separated integers) -new_log Start a new log file (default is append to old log file) -log_name <name> Use different log file (default is chglog.txt) -h Print this option list
Expected results:	*Diskchg* displays its usage mode in each case.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

3.2.4 *Seccmp* Test Results Summary

Case Scm-01	
Case summary:	Compare first sectors of each disk (source SCSI, destination IDE) having known contents, but neither diskwipe-filled nor zero-filled. Use: -the –sector option; -the –comment option with one-word comment.
Tester name:	Serban
Test date:	Mon Apr 4 17:14:49 2005
PC:	McMillan
Disks:	Source: SCSI, /dev/sda, external label “CC”, model ST336705LC, serial # 3DE03HL300008110CEHF. Dest: IDE, /dev/hdb, external label “7F”, model MAXTOR 6L040J2, serial # 662201137770.
Execute:	Fill first sectors diskwipe-style, then change one byte in each, using *diskchg*: diskchg scm-01 mcmillan serban /dev/sda -fill 0 0 0 CC diskchg scm-01 mcmillan serban /dev/sda -write 0 30 01 diskchg scm-01 mcmillan serban /dev/hdb -fill 0 0 0 7F diskchg scm-01 mcmillan serban /dev/hdb -write 0 30 01 Run ***seccmp***: seccmp scm-01 mcmillan serban /dev/sda CC /dev/hdb 7F -sector 0 0 -comment CompareNonFilledSectors
Log files location:	Test-archive/seccmp/scm-01/
Log file highlights:	**Seclog.txt:** seccmp @(#) seccmp.c Linux Version 1.3 Created 03/18/05 at 14:39:56 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: seccmp scm-01 mcmillan serban /dev/sda CC /dev/hdb 7F -sector 0 0 -comment CompareNonFilledSectors TEST scm-01 HOST mcmillan OPERATOR serban Comment: CompareNonFilledSectors Source disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors

	Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Destination disk Drive /dev/hdb 04865/254/63 (max cyl/hd values) 04866/255/63 (number of cyl/hd) 78177792 total number of sectors IDE disk: Model (MAXTOR 6L040J2) serial # (662201137770) Compare sectors at: Src 0 (0+0) Dst 0 (0+0) Src 16: 30 30 30 30 30 30 30 30 30 00 CC CC CC CC 01 CC diff : ** ** ** ** ** Dst 16: 30 30 30 30 30 30 30 30 30 00 7F 7F 7F 7F 01 7F ---------- … ---------- Src 496: CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC diff : ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** Dst 496: 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 485 bytes different run start Mon Apr 4 17:14:49 2005 run finish Mon Apr 4 17:14:49 2005 elapsed time 0:0:0 Normal exit
Expected results:	*Seccmp* creates a new log file “seclog.txt”. It compares the sectors specified in the –sector option and displays the differences. It logs all the required information correctly.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Scm-02	
Case summary:	Compare last sectors of each disk (source SCSI, destination IDE) that are diskwipe-filled. Use: -the –sector option; -the –comment option with a multi-word comment; -the previous log file to append the log records.
Tester name:	Serban
Test date:	Mon Apr 4 17:21:54 2005
PC:	McMillan
Disks:	Source: SCSI, /dev/sda, external label “CC”, model

	ST336705LC, serial # 3DE03HL300008110CEHF. Dest: IDE, /dev/hdb, external label “7F”, model MAXTOR 6L040J2, serial # 662201137770.
Execute:	Fill last sectors of each disk diskwipe-style using *diskchg*: diskchg scm-02 mcmillan serban /dev/sda -new_log -fill 71687369 71687369 0 CC diskchg scm-02 mcmillan serban /dev/hdb -new_log -fill 78177791 78177791 0 7F Run ***seccmp***: seccmp scm-02 mcmillan serban /dev/sda CC /dev/hdb 7F -sector 71687369 78177791 -comment "Compare diskwipe-filled sector, append log"
Log files location:	Test-archive/seccmp/scm-02/
Log file highlights:	**Seclog.txt:** -----Log of the previous test case, followed by----- seccmp @(#) seccmp.c Linux Version 1.3 Created 03/18/05 at 14:39:56 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: seccmp scm-02 mcmillan serban /dev/sda CC /dev/hdb 7F -sector 71687369 78177791 -comment Compare diskwipe-filled sectors, append log TEST scm-02 HOST mcmillan OPERATOR serban Comment: Compare diskwipe-filled sectors, append log Source disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Destination disk Drive /dev/hdb 04865/254/63 (max cyl/hd values) 04866/255/63 (number of cyl/hd) 78177792 total number of sectors IDE disk: Model (MAXTOR 6L040J2) serial # (662201137770) Compare sectors at: Src 71687369 (71687369+0) Dst

	78177791 (78177791+0) Src filled by CC from 04462/084/48 000071687369 Dst filled by 7F from 04866/087/21 000078177791 497 bytes different run start Mon Apr 4 17:21:54 2005 run finish Mon Apr 4 17:21:54 2005 elapsed time 0:0:0 Normal exit
Expected results:	*Seccmp* appends the log records to the log file "seclog.txt" created in the previous test case. It detects the sectors are diskwipe-style filled, compares them, and displays the number of different bytes. It logs all the required information correctly.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Scm-03	
Case summary:	Try to compare sectors outside the range of the disk. Use: -the –sector option specifying sector addresses beyond the disks' end; -interactive comment; -the –new_log option in order to create a new log file although a log file with the same name already exists.
Tester name:	Serban
Test date:	Mon Apr 4 17:26:26 2005
PC:	McMillan
Disks:	Source: SCSI, /dev/sda, external label "CC", model ST336705LC, serial # 3DE03HL300008110CEHF. Dest: IDE, /dev/hdb, external label "7F", model MAXTOR 6L040J2, serial # 662201137770.
Execute:	Run ***seccmp***: seccmp scm-03 mcmillan serban /dev/sda CC /dev/hdb 7F -sector 71687600 78177900 -new_log
Log files location:	Test-archive/seccmp/scm-03
Log file highlights:	**Seclog.txt:** seccmp @(#) seccmp.c Linux Version 1.3 Created 03/18/05 at 14:39:56 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24

	cmd: seccmp scm-03 mcmillan serban /dev/sda CC /dev/hdb 7F -sector 71687600 78177900 -new_log TEST scm-03 HOST mcmillan OPERATOR serban Comment: Try compare sectors outside range Source disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Destination disk Drive /dev/hdb 04865/254/63 (max cyl/hd values) 04866/255/63 (number of cyl/hd) 78177792 total number of sectors IDE disk: Model (MAXTOR 6L040J2) serial # (662201137770) Src Read error 0xFFFFFFFF at LBA 71687600 Dst Read error 0xFFFFFFFF at LBA 78177900 run start Mon Apr 4 17:26:26 2005 run finish Mon Apr 4 17:26:38 2005 elapsed time 0:0:12 Normal exit
Expected results:	*Seccmp* creates a new log file "seclog.txt" although a log file with the same name already exists. It detects the invalid addresses and issues some error message. It logs all the required information correctly.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Scm-04	
Case summary:	Compare different combinations of diskwipe-style filled sectors (same or different fill value, same or different headers – i.e., LBA and C/H/S), when the fill values specified on the command line are identical. Use: -interactive specification of sector addresses; -interactive comment; -the –new_log option, -same fill value for both drives on the command line.
Tester name:	Serban
Test date:	Mon Apr 4 17:38:20 2005
PC:	McMillan
Disks:	Source: SCSI, /dev/sda, external label "CC", model

	ST336705LC, serial # 3DE03HL300008110CEHF. Dest: IDE, /dev/hdb, external label “7F”, model MAXTOR 6L040J2, serial # 662201137770.
Execute:	Use *diskchg* to fill sectors: diskchg scm-04 mcmillan serban /dev/sda -fill 1000 1000 0 CC diskchg scm-04 mcmillan serban /dev/sda -fill 1001 1001 0 CD diskchg scm-04 mcmillan serban /dev/hdb -fill 1000 1000 0 CC diskchg scm-04 mcmillan serban /dev/hdb -fill 1001 1001 0 CD diskchg scm-04 mcmillan serban /dev/hdb -fill 1002 1002 0 CE diskchg scm-04 mcmillan serban /dev/hdb -fill 2000 2000 0 CC diskchg scm-04 mcmillan serban /dev/hdb -fill 2001 2001 0 CD Run ***seccmp***: seccmp scm-04 mcmillan serban /dev/sda CC /dev/hdb CC -new_log and submit the following sector pairs when prompted: 1000 1000 1000 1001 1001 1000 1001 1002 1001 1001 1000 2000 1001 2001
Log files location:	Test-archive/seccmp/scm-04
Log file highlights:	**Seclog.txt:** seccmp @(#) seccmp.c Linux Version 1.3 Created 03/18/05 at 14:39:56 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: seccmp scm-04 mcmillan serban /dev/sda CC /dev/hdb CC -new_log TEST scm-04 HOST mcmillan OPERATOR serban Comment: Compare variously filled sectors

	Source disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Destination disk Drive /dev/hdb 04865/254/63 (max cyl/hd values) 04866/255/63 (number of cyl/hd) 78177792 total number of sectors IDE disk: Model (MAXTOR 6L040J2) serial # (662201137770) Compare sectors at: Src 1000 (1000+0) Dst 1000 (1000+0) Src filled by CC from 00000/015/56 000000001000 Dst filled by CC from 00000/015/56 000000001000 0 bytes different Compare sectors at: Src 1000 (1000+0) Dst 1001 (1001+0) Src filled by CC from 00000/015/56 000000001000 Dst filled by CD from 00000/015/57 000000001001 488 bytes different Compare sectors at: Src 1001 (1001+0) Dst 1000 (1000+0) Src filled by CD from 00000/015/57 000000001001 Dst filled by CC from 00000/015/56 000000001000 488 bytes different Compare sectors at: Src 1001 (1001+0) Dst 1002 (1002+0) Src filled by CD from 00000/015/57 000000001001 Dst filled by CE from 00000/015/58 000000001002 488 bytes different Compare sectors at: Src 1001 (1001+0) Dst 1001 (1001+0) Src filled by CD from 00000/015/57 000000001001 Dst filled by CD from 00000/015/57 000000001001 0 bytes different Compare sectors at: Src 1000 (1000+0) Dst 2000 (2000+0) Src filled by CC from 00000/015/56 000000001000

	Dst filled by CC from 00000/031/48 000000002000 5 bytes different Compare sectors at: Src 1001 (1001+0) Dst 2001 (2001+0) Src filled by CD from 00000/015/57 000000001001 Dst filled by CD from 00000/031/49 000000002001 5 bytes different run start Mon Apr 4 17:38:20 2005 run finish Mon Apr 4 17:42:07 2005 elapsed time 0:3:47 Normal exit
Expected results:	*Seccmp* creates a log file "seclog.txt". It detects the sectors are filled, compares them, and displays the number of differences. It logs all the required information correctly.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Scm-05	
Case summary:	Compare different combinations of diskwipe-style filled sectors (same or different fill value, same or different headers – i.e., LBA and C/H/S), when the fill values specified on the command line are different. Use: -interactive specification of sector addresses; -interactive comment; -the –new_log option; -different fill values for the source and destination drives on the command line.
Tester name:	Serban
Test date:	Mon Apr 4 17:47:43 2005
PC:	McMillan
Disks:	Source: SCSI, /dev/sda, external label "CC", model ST336705LC, serial # 3DE03HL300008110CEHF. Dest: IDE, /dev/hdb, external label "7F", model MAXTOR 6L040J2, serial # 662201137770.
Execute:	Use *diskchg* to fill sectors: diskchg scm-05 mcmillan serban /dev/sda -fill 1000 1000 0 CC diskchg scm-05 mcmillan serban /dev/sda -fill 1001 1001 0 CD diskchg scm-05 mcmillan serban /dev/sda -fill 1002 1002

	0 7F diskchg scm-05 mcmillan serban /dev/hdb -fill 1000 1000 0 CC diskchg scm-05 mcmillan serban /dev/hdb -fill 1001 1001 0 CD diskchg scm-05 mcmillan serban /dev/hdb -fill 1002 1002 0 7F diskchg scm-05 mcmillan serban /dev/hdb -fill 1003 1003 0 7E diskchg scm-05 mcmillan serban /dev/hdb -fill 2000 2000 0 CC diskchg scm-05 mcmillan serban /dev/hdb -fill 2001 2001 0 CD diskchg scm-05 mcmillan serban /dev/hdb -fill 2002 2002 0 7F Run ***seccmp***: seccmp scm-05 mcmillan serban /dev/sda CC /dev/hdb 7F -new_log and submit the following sector pairs when prompted: 1000 1000 1000 1002 1001 1003 1001 1001 1001 1002 1001 1003 1002 1002 1000 2000 1001 2001 1002 2002
Log files location:	Test-archive/seccmp/scm-05
Log file highlights:	**Seclog.txt:** seccmp @(#) seccmp.c Linux Version 1.3 Created 03/18/05 at 14:39:56 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: seccmp scm-05 mcmillan serban /dev/sda CC /dev/hdb 7F -new_log TEST scm-05 HOST mcmillan OPERATOR serban Comment: Compare variously filled sectors Source disk Drive /dev/sda

	04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Destination disk Drive /dev/hdb 04865/254/63 (max cyl/hd values) 04866/255/63 (number of cyl/hd) 78177792 total number of sectors IDE disk: Model (MAXTOR 6L040J2) serial # (662201137770) Compare sectors at: Src 1000 (1000+0) Dst 1000 (1000+0) Src filled by CC from 00000/015/56 000000001000 Dst filled by CC from 00000/015/56 000000001000 0 bytes different Compare sectors at: Src 1000 (1000+0) Dst 1002 (1002+0) Src filled by CC from 00000/015/56 000000001000 Dst filled by 7F from 00000/015/58 000000001002 488 bytes different Compare sectors at: Src 1000 (1000+0) Dst 1003 (1003+0) Src filled by CC from 00000/015/56 000000001000 Dst filled by 7E from 00000/015/59 000000001003 488 bytes different Compare sectors at: Src 1001 (1001+0) Dst 1001 (1001+0) Src filled by CD from 00000/015/57 000000001001 Dst filled by CD from 00000/015/57 000000001001 0 bytes different Compare sectors at: Src 1001 (1001+0) Dst 1002 (1002+0) Src filled by CD from 00000/015/57 000000001001 Dst filled by 7F from 00000/015/58 000000001002 488 bytes different Compare sectors at: Src 1001 (1001+0) Dst 1003 (1003+0) Src filled by CD from 00000/015/57 000000001001 Dst filled by 7E from 00000/015/59 000000001003

	488 bytes different Compare sectors at: Src 1002 (1002+0) Dst 1002 (1002+0) Src filled by 7F from 00000/015/58 000000001002 Dst filled by 7F from 00000/015/58 000000001002 0 bytes different Compare sectors at: Src 1000 (1000+0) Dst 2000 (2000+0) Src filled by CC from 00000/015/56 000000001000 Dst filled by CC from 00000/031/48 000000002000 5 bytes different Compare sectors at: Src 1001 (1001+0) Dst 2001 (2001+0) Src filled by CD from 00000/015/57 000000001001 Dst filled by CD from 00000/031/49 000000002001 5 bytes different Compare sectors at: Src 1002 (1002+0) Dst 2002 (2002+0) Src filled by 7F from 00000/015/58 000000001002 Dst filled by 7F from 00000/031/50 000000002002 4 bytes different run start Mon Apr 4 17:47:43 2005 run finish Mon Apr 4 17:49:25 2005 elapsed time 0:1:42 Normal exit
Expected results:	*Seccmp* creates a new log file “seclog.txt”. It detects the sectors are filled, compares them, and displays the number of differences. Note that the drive fill values specified on the command line should not matter. It logs all the required information correctly.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Scm-06	
Case summary:	Compare combinations of diskwipe-style filled, zero-filled, and arbitrary sectors. Use: -interactive specification of sector addresses; -interactive comment; -the –log_name option to use an alternate log file name.

Tester name:	Serban
Test date:	Mon Apr 4 17:54:35 2005
PC:	McMillan
Disks:	Source: SCSI, /dev/sda, external label “CC”, model ST336705LC, serial # 3DE03HL300008110CEHF. Dest: IDE, /dev/hdb, external label “7F”, model MAXTOR 6L040J2, serial # 662201137770.
Execute:	Use *diskchg* to fill, zero, or set sectors to arbitrary contents: Source sectors 1000, 1001, 1002: diskchg scm-06 mcmillan serban /dev/sda -fill 1000 1000 0 CC diskchg scm-06 mcmillan serban /dev/sda -zero 1001 diskchg scm-06 mcmillan serban /dev/sda -write 1002 30 55 Destination sectors 2000, 2001, 2002: diskchg scm-06 mcmillan serban /dev/hdb -fill 2000 2000 0 7F diskchg scm-06 mcmillan serban /dev/hdb -zero 2001 diskchg scm-06 mcmillan serban /dev/hdb -write 2002 30 56 Run ***seccmp***: seccmp scm-06 mcmillan serban /dev/sda CC /dev/hdb 7F -log_name log.txt and submit the following sector pairs when prompted: 1000 2001 1000 2002 1001 2000 1001 2001 1001 2002 1002 2000 1002 2001 1002 2002
Log files location:	Test-archive/seccmp/scm-06
Log file highlights:	**log.txt:** seccmp @(#) seccmp.c Linux Version 1.3 Created 03/18/05 at 14:39:56 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: seccmp scm-06 mcmillan serban /dev/sda CC /dev/hdb 7F -log_name log.txt TEST scm-06 HOST mcmillan OPERATOR serban Comment: Compare variously filled sectors, alternate log file

	name Source disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Destination disk Drive /dev/hdb 04865/254/63 (max cyl/hd values) 04866/255/63 (number of cyl/hd) 78177792 total number of sectors IDE disk: Model (MAXTOR 6L040J2) serial # (662201137770) Compare sectors at: Src 1000 (1000+0) Dst 2001 (2001+0) Src 0: 30 30 30 30 30 2F 30 31 35 2F 35 36 20 30 30 30 diff : ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** Dst 0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ---------- … ---------- Src 496: CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC diff : ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** Dst 496: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 511 bytes different Compare sectors at: Src 1000 (1000+0) Dst 2002 (2002+0) Src 0: 30 30 30 30 30 2F 30 31 35 2F 35 36 20 30 30 30 diff : ** ** ** Dst 0: 30 30 30 30 30 2F 30 33 31 2F 35 30 20 30 30 30 ---------- … ---------- Src 496: CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC diff : ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** Dst 496: 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 491 bytes different Compare sectors at: Src 1001 (1001+0) Dst 2000 (2000+0) Src 0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

	diff : ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** Dst 0: 30 30 30 30 30 2F 30 33 31 2F 34 38 20 30 30 30 ---------- … ---------- Src 496: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 diff : ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** Dst 496: 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 511 bytes different Compare sectors at: Src 1001 (1001+0) Dst 2001 (2001+0) 0 bytes different Compare sectors at: Src 1001 (1001+0) Dst 2002 (2002+0) Src 0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 diff : ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** Dst 0: 30 30 30 30 30 2F 30 33 31 2F 35 30 20 30 30 30 ---------- … ---------- Src 496: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 diff : ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** Dst 496: 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 511 bytes different Compare sectors at: Src 1002 (1002+0) Dst 2000 (2000+0) Src 0: 30 30 30 30 30 2F 30 31 35 2F 35 38 20 30 30 30 diff : ** ** ** Dst 0: 30 30 30 30 30 2F 30 33 31 2F 34 38 20 30 30 30 ---------- Src 16: 30 30 30 30 30 31 30 30 32 00 7F 7F 7F 7F 55 7F diff : ** ** ** Dst 16: 30 30 30 30 30 32 30 30 30 00 7F 7F 7F 7F 7F 7F 6 bytes different Compare sectors at: Src 1002 (1002+0) Dst 2001 (2001+0) Src 0: 30 30 30 30 30 2F 30 31 35 2F 35 38 20 30 30 30 diff : ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** Dst 0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ---------- … ----------

	Src 496: 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F diff : ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** Dst 496: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 511 bytes different Compare sectors at: Src 1002 (1002+0) Dst 2002 (2002+0) Src 0: 30 30 30 30 30 2F 30 31 35 2F 35 38 20 30 30 30 diff : ** ** ** Dst 0: 30 30 30 30 30 2F 30 33 31 2F 35 30 20 30 30 30 ---------- Src 16: 30 30 30 30 30 31 30 30 32 00 7F 7F 7F 7F 55 7F diff : ** ** Dst 16: 30 30 30 30 30 32 30 30 32 00 7F 7F 7F 7F 56 7F 5 bytes different run start Mon Apr 4 17:54:35 2005 run finish Mon Apr 4 17:57:41 2005 elapsed time 0:3:6 Normal exit
Expected results:	*Seccmp* creates a log file with the name "log.txt". It compares the pairs of sectors and displays correctly the differences. It logs all the required information correctly.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Scm-07	
Case summary:	Test whether *seccmp* displays its usage mode when invoked with the –h option.
Tester name:	Serban
Test date:	Mon Apr 4 18:00:00 2005
PC:	McMillan
Disks:	None.
Execute:	Run *seccmp* and capture its standard output into a file: seccmp > output.txt seccmp scm-07 mcmillan serban /dev/sda –logname >> output.txt seccmp –h >> output.txt seccmp scm-07 mcmillan serban /dev/sda CC /dev/hdb 7F –h >> output.txt
Log files location:	Test-archive/seccmp/scm-07
Log file highlights:	**output.txt:**

	seccmp compiled at 19:16:47 on Mar 25 2005 Usage: seccmp test-case host operator src-drv src-label dst-drv dst-label [-options] -comment "..." Descriptive comment -sector src_lba dst_lbaSpecify the sectors to compare -new_log Start a new log file (default is append to old log file) -log_name <name> Use different log file (default is seclog.txt) -h Print this option list …
Expected results:	*Seccmp* displays its usage mode in each case: when invoked without arguments, with incorrect arguments, with the –h option alone on the command line, and with the –h option plus correct arguments.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

3.2.5 *Partcmp* Test Results Summary

Case Pcm-01	
Case summary:	Compare large primary FAT32 partitions, where the source partition is smaller than the destination partition and they have the same contents on the smaller length. Also, test how *partcmp* creates a log file with the default name, logs a one-word comment entered on the command line, logs the disks and the partitions, prompts the user for partition indexes, and logs the program execution.
Tester name:	Serban
Test date:	Tue Apr 5 14:03:31 2005
PC:	McMillan
Disks:	Source: IDE, /dev/hdb, external label "7F", model MAXTOR 6L040J2, serial # 662201137770. Destination: SCSI, /dev/sda, external label "CC", model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run *partcmp*: partcmp pcm-01 mcmillan serban /dev/hdb 7F /dev/sda CC -comment CompareLargeFAT32
Log files location:	Test-archive/partcmp/pcm-01
Log file highlights:	**Cmpptlog.txt:** partcmp @(#) partcmp.c Linux Version 1.3 Created 03/15/05 at 17:25:33 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: partcmp pcm-01 mcmillan serban /dev/hdb 7F /dev/sda CC -comment CompareLargeFAT32 TEST pcm-01 HOST mcmillan OPERATOR serban Comment: CompareLargeFAT32 Source disk Drive /dev/hdb 04865/254/63 (max cyl/hd values) 04866/255/63 (number of cyl/hd) 78177792 total number of sectors IDE disk: Model (MAXTOR 6L040J2) serial # (662201137770) N Start LBA Length Start C/H/S End C/H/S boot

	Partition type 1 P 000000063 018426492 0000/001/01 1023/254/63 0C Fat32X 2 P 018426555 022539195 1023/000/01 1023/254/63 83 Linux 3 X 040965750 000835380 1023/000/01 1023/254/63 0F extended 4 S 000000063 000417627 1023/001/01 1023/254/63 0B Fat32 5 x 000417690 000417690 1023/000/01 1023/254/63 05 extended 6 S 000000063 000417627 1023/001/01 1023/254/63 06 Fat16 7 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 8 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry P primary partition (1-4) S secondary (sub) partition X primary extended partition (1-4) x secondary extended partition Source disk partition 1 at 63 for 18426492 Destination disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 020482812 0000/001/01 1023/254/63 0C Fat32X 2 P 020482875 020482875 1023/000/01 1023/254/63 83 Linux 3 X 040965750 001044225 1023/000/01 1023/254/63 0F extended 4 S 000000063 000417627 1023/001/01 1023/254/63 0B Fat32 5 x 000417690 000626535 1023/000/01 1023/254/63 05 extended 6 S 000000063 000626472 1023/001/01 1023/254/63 06 Fat16 7 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 8 P 000000000 000000000 0000/000/00 0000/000/00

	00 empty entry P primary partition (1-4) S secondary (sub) partition X primary extended partition (1-4) x secondary extended partition Destination disk partition 1 at 63 for 20482812 Source disk fill byte 7F Destination disk fill byte CC Source base sector 63 Destination base sector 63 Sectors compared: 18426492 Sectors match: 18426492 Sectors differ: 0 Bytes differ: 0 Diffs range: Source (18426492) has 2056320 fewer sectors than destination (20482812) Zero fill: 0 Src Byte fill (7F): 0 Dst Byte fill (CC): 2056320 Other fill: 0 Other no fill: 0 Zero fill range: Src fill range: Dst fill range: 18426492-20482811 Other fill range: Other not filled range: run start Tue Apr 5 14:03:31 2005 run finish Tue Apr 5 14:21:12 2005 elapsed time 0:17:41 Normal exit
Expected results:	*Partcmp* creates a new log file “cmpptlog.txt”. It logs the comment and the other information as required. It displays the partition table entries and assigns them indexes. It prompts the user for indexes. It compares the partitions indicated by the user through their indexes, and displays the result, including the number and range of different and equal sectors. For the destination partition, which is larger, it categorizes the surplus sectors.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Pcm-02	
Case summary:	Compare large primary FAT32 partitions, where the source partition is bigger than the destination partition and

	they have *almost* the same contents on the smaller length. Select the partitions to compare by using the –select option. Also compare the boot tracks for those partitions, by using the –boot option. Test how *partcmp* creates a new log file with the default name although a log file with the same name exists, logs a multi-word comment entered on the command line, logs the disks and the partitions, and logs the program execution.
Tester name:	Serban
Test date:	Tue Apr 5 15:25:58 2005
PC:	McMillan
Disks:	Source: SCSI, /dev/sda, external label “CC”, model ST336705LC, serial # 3DE03HL300008110CEHF. Destination: IDE, /dev/hdb, external label “7F”, model MAXTOR 6L040J2, serial # 662201137770.
Execute:	Modify a few sectors in the source partition by using *diskchg* (we assume the partitions had the same contents on the smaller length): diskchg pcm-02 mcmillan serban /dev/sda -fill 1000 1000 0 AA diskchg pcm-02 mcmillan serban /dev/sda -zero 2000 diskchg pcm-02 mcmillan serban /dev/sda -write 3000 30 AA Run *partcmp*: partcmp pcm-02 mcmillan serban /dev/sda CC /dev/hdb 7F -select 1 1 -boot -comment "Compare FAT32 slightly different, src > dst" -new_log
Log files location:	Test-archive/partcmp/pcm-02
Log file highlights:	**Cmpptlog.txt:** partcmp @(#) partcmp.c Linux Version 1.3 Created 03/15/05 at 17:25:33 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: partcmp pcm-02 mcmillan serban /dev/sda CC /dev/hdb 7F -select 1 1 -boot -comment Compare FAT32 slightly different, src > dst -new_log

	TEST pcm-02 HOST mcmillan OPERATOR serban Comment: Compare FAT32 slightly different, src > dst Source disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 020482812 0000/001/01 1023/254/63 0C Fat32X 2 P 020482875 020482875 1023/000/01 1023/254/63 83 Linux 3 X 040965750 001044225 1023/000/01 1023/254/63 0F extended 4 S 000000063 000417627 1023/001/01 1023/254/63 0B Fat32 5 x 000417690 000626535 1023/000/01 1023/254/63 05 extended 6 S 000000063 000626472 1023/001/01 1023/254/63 06 Fat16 7 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 8 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry P primary partition (1-4) S secondary (sub) partition X primary extended partition (1-4) x secondary extended partition Source disk partition 1 at 63 for 20482812 Destination disk Drive /dev/hdb 04865/254/63 (max cyl/hd values) 04866/255/63 (number of cyl/hd) 78177792 total number of sectors IDE disk: Model (MAXTOR 6L040J2) serial # (662201137770) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 018426492 0000/001/01 1023/254/63 0C Fat32X 2 P 018426555 022539195 1023/000/01 1023/254/63 83 Linux 3 X 040965750 000835380 1023/000/01 1023/254/63 0F extended

	4 S 000000063 000417627 1023/001/01 1023/254/63 0B Fat32 5 x 000417690 000417690 1023/000/01 1023/254/63 05 extended 6 S 000000063 000417627 1023/001/01 1023/254/63 06 Fat16 7 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 8 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry P primary partition (1-4) S secondary (sub) partition X primary extended partition (1-4) x secondary extended partition Destination disk partition 1 at 63 for 18426492 Source disk fill byte CC Destination disk fill byte 7F Source base sector 0 Destination base sector 0 Sectors compared: 18426555 Sectors match: 18426490 Sectors differ: 65 Bytes differ: 30656 Diffs range: 0-62, 1000, 3000 Source (20482875) has 2056320 more sectors than destination (18426555) run start Tue Apr 5 15:25:14 2005 run finish Tue Apr 5 15:41:49 2005 elapsed time 0:16:35 Normal exit
Expected results:	*Partcmp* creates a new log file “cmpptlog.txt”, although a file with the same name exists. It logs the comment and the other information as required. It displays the partition table entries and assigns them indexes. It compares the partitions selected by the user, and displays the result, including the number and range of different and equal sectors.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Pcm-03	
Case summary:	Compare primary Linux Ext2 partitions, where the source partition is bigger than the destination partition and they have the same contents on the smaller length. Also compare the boot tracks for those partitions, by using the –

	boot option. Test whether *partcmp* appends the log records to the existing log file, prompts the user for a comment and partition indexes, logs the comment, the disks, and the partitions, and logs the program execution.
Tester name:	Serban
Test date:	Tue Apr 5 16:15:22 2005
PC:	McMillan
Disks:	Source: IDE, /dev/hdb, external label "7F", model MAXTOR 6L040J2, serial # 662201137770. Destination: SCSI, /dev/sda, external label "CC", model ST336705LC, serial # 3DE03HL300008110CEHF
Execute:	Run *partcmp*: partcmp pcm-03 mcmillan serban /dev/hdb 7F /dev/sda CC -boot
Log files location:	Test-archive/partcmp/pcm-03
Log file highlights:	**Cmpptlog.txt:** -----Log of the previous case, followed by----- partcmp @(#) partcmp.c Linux Version 1.3 Created 03/15/05 at 17:25:33 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: partcmp pcm-03 mcmillan serban /dev/hdb 7F /dev/sda CC -boot TEST pcm-03 HOST mcmillan OPERATOR serban Comment: Compare Linux Ext2, append log, src > dst, equal contents Source disk Drive /dev/hdb 04865/254/63 (max cyl/hd values) 04866/255/63 (number of cyl/hd) 78177792 total number of sectors IDE disk: Model (MAXTOR 6L040J2) serial # (662201137770) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 018426492 0000/001/01 1023/254/63

	0C Fat32X 2 P 018426555 022539195 1023/000/01 1023/254/63 83 Linux 3 X 040965750 000835380 1023/000/01 1023/254/63 0F extended 4 S 000000063 000417627 1023/001/01 1023/254/63 0B Fat32 5 x 000417690 000417690 1023/000/01 1023/254/63 05 extended 6 S 000000063 000417627 1023/001/01 1023/254/63 06 Fat16 7 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 8 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry P primary partition (1-4) S secondary (sub) partition X primary extended partition (1-4) x secondary extended partition Source disk partition 2 at 18426555 for 22539195 Destination disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 020482812 0000/001/01 1023/254/63 0C Fat32X 2 P 020482875 020482875 1023/000/01 1023/254/63 83 Linux 3 X 040965750 001044225 1023/000/01 1023/254/63 0F extended 4 S 000000063 000417627 1023/001/01 1023/254/63 0B Fat32 5 x 000417690 000626535 1023/000/01 1023/254/63 05 extended 6 S 000000063 000626472 1023/001/01 1023/254/63 06 Fat16 7 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 8 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry P primary partition (1-4)

	S secondary (sub) partition X primary extended partition (1-4) x secondary extended partition Destination disk partition 2 at 20482875 for 20482875 Source disk fill byte 7F Destination disk fill byte CC Source base sector 18426492 Destination base sector 20482812 Sectors compared: 20482938 Sectors match: 20482875 Sectors differ: 63 Bytes differ: 31185 Diffs range: 0-62 Source (22539258) has 2056320 more sectors than destination (20482938) run start Tue Apr 5 16:15:22 2005 run finish Tue Apr 5 16:34:33 2005 elapsed time 0:19:11 Normal exit
Expected results:	*Partcmp* appends the log records to the log file "cmpptlog.txt". It prompts the user for a comment, logs the partitions, prompts the user to select the partitions to be compared. It logs the other information as required. It compares the partitions selected by the user, including the boot tracks, and displays the result, including the number and range of different and equal sectors.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Pcm-04	
Case summary:	Compare logical Fat32 partitions with the same size and contents. Also compare the boot tracks for those partitions, by using the –boot option. Test whether *partcmp* creates a log file with an alternate name when using the –log_name option.
Tester name:	Serban
Test date:	Tue Apr 5 16:47:25 2005
PC:	McMillan
Disks:	Source: IDE, /dev/hdb, external label "7F", model MAXTOR 6L040J2, serial # 662201137770. Destination: SCSI, /dev/sda, external label "CC", model ST336705LC, serial # 3DE03HL300008110CEHF
Execute:	Run *partcmp*:

	partcmp pcm-04 mcmillan serban /dev/hdb 7F /dev/sda CC -boot -log_name pcmlog.txt
Log files location:	Test-archive/partcmp/pcm-04
Log file highlights:	**Pcmlog.txt:** partcmp @(#) partcmp.c Linux Version 1.3 Created 03/15/05 at 17:25:33 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: partcmp pcm-04 mcmillan serban /dev/hdb 7F /dev/sda CC -boot -log_name pcmlog.txt TEST pcm-04 HOST mcmillan OPERATOR serban Comment: Alternate log file name, logical partitions equal in size and content Source disk Drive /dev/hdb 04865/254/63 (max cyl/hd values) 04866/255/63 (number of cyl/hd) 78177792 total number of sectors IDE disk: Model (MAXTOR 6L040J2) serial # (662201137770) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 018426492 0000/001/01 1023/254/63 0C Fat32X 2 P 018426555 022539195 1023/000/01 1023/254/63 83 Linux 3 X 040965750 000835380 1023/000/01 1023/254/63 0F extended 4 S 000000063 000417627 1023/001/01 1023/254/63 0B Fat32 5 x 000417690 000417690 1023/000/01 1023/254/63 05 extended 6 S 000000063 000417627 1023/001/01 1023/254/63 06 Fat16 7 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 8 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry P primary partition (1-4) S secondary (sub) partition

	X primary extended partition (1-4) x secondary extended partition Source disk partition 4 at 40965813 for 417627 Destination disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 020482812 0000/001/01 1023/254/63 0C Fat32X 2 P 020482875 020482875 1023/000/01 1023/254/63 83 Linux 3 X 040965750 001044225 1023/000/01 1023/254/63 0F extended 4 S 000000063 000417627 1023/001/01 1023/254/63 0B Fat32 5 x 000417690 000626535 1023/000/01 1023/254/63 05 extended 6 S 000000063 000626472 1023/001/01 1023/254/63 06 Fat16 7 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 8 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry P primary partition (1-4) S secondary (sub) partition X primary extended partition (1-4) x secondary extended partition Destination disk partition 4 at 40965813 for 417627 Source disk fill byte 7F Destination disk fill byte CC Source base sector 40965750 Destination base sector 40965750 Sectors compared: 417690 Sectors match: 417627 Sectors differ: 63 Bytes differ: 30310 Diffs range: 0-62 run start Tue Apr 5 16:47:25 2005 run finish Tue Apr 5 16:48:43 2005 elapsed time 0:1:18 Normal exit

Expected results:	*Partcmp* creates a new log file with the name "pcmlog.txt". It prompts the user for a comment, logs the comment, disks, partitions, prompts the user to select the partitions to be compared. It logs the other information as required. It compares the partitions selected by the user, including the boot tracks, and displays the result, including the number and range of different and equal sectors.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Pcm-05	
Case summary:	Compare logical Fat32 partitions with the same size and slightly different contents. Also compare the boot tracks for those partitions, by using the –boot option. Test whether *partcmp* appends the log records to an existing log file with an alternate name when using the –log_name option.
Tester name:	Serban
Test date:	Tue Apr 5 16:55:30 2005
PC:	McMillan
Disks:	Source: IDE, /dev/hdb, external label "7F", model MAXTOR 6L040J2, serial # 662201137770. Destination: SCSI, /dev/sda, external label "CC", model ST336705LC, serial # 3DE03HL300008110CEHF
Execute:	Modify a few sectors of the source partition by using *diskchg*: diskchg pcm-05 mcmillan serban /dev/hdb -fill 40966813 40966813 0 AA diskchg pcm-05 mcmillan serban /dev/hdb -fill 40967813 40967813 0 AA diskchg pcm-05 mcmillan serban /dev/hdb -fill 40968813 40968813 0 AA diskchg pcm-05 mcmillan serban /dev/hdb -fill 40969813 40969813 0 AA Run *partcmp*: partcmp pcm-05 mcmillan serban /dev/hdb 7F /dev/sda CC -log_name pcmlog.txt -boot
Log files location:	Test-archive/partcmp/pcm-05
Log file highlights:	**Pcmlog.txt:**

	-----Log of the previous case, followed by----- partcmp @(#) partcmp.c Linux Version 1.3 Created 03/15/05 at 17:25:33 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: partcmp pcm-05 mcmillan serban /dev/hdb 7F /dev/sda CC -log_name pcmlog.txt -boot TEST pcm-05 HOST mcmillan OPERATOR serban Comment: Append to alternate log file, equal partitions except a few sectors Source disk Drive /dev/hdb 04865/254/63 (max cyl/hd values) 04866/255/63 (number of cyl/hd) 78177792 total number of sectors IDE disk: Model (MAXTOR 6L040J2) serial # (662201137770) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 018426492 0000/001/01 1023/254/63 0C Fat32X 2 P 018426555 022539195 1023/000/01 1023/254/63 83 Linux 3 X 040965750 000835380 1023/000/01 1023/254/63 0F extended 4 S 000000063 000417627 1023/001/01 1023/254/63 0B Fat32 5 x 000417690 000417690 1023/000/01 1023/254/63 05 extended 6 S 000000063 000417627 1023/001/01 1023/254/63 06 Fat16 7 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 8 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry P primary partition (1-4) S secondary (sub) partition X primary extended partition (1-4) x secondary extended partition

	Source disk partition 4 at 40965813 for 417627 Destination disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 020482812 0000/001/01 1023/254/63 0C Fat32X 2 P 020482875 020482875 1023/000/01 1023/254/63 83 Linux 3 X 040965750 001044225 1023/000/01 1023/254/63 0F extended 4 S 000000063 000417627 1023/001/01 1023/254/63 0B Fat32 5 x 000417690 000626535 1023/000/01 1023/254/63 05 extended 6 S 000000063 000626472 1023/001/01 1023/254/63 06 Fat16 7 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 8 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry P primary partition (1-4) S secondary (sub) partition X primary extended partition (1-4) x secondary extended partition Destination disk partition 4 at 40965813 for 417627 Source disk fill byte 7F Destination disk fill byte CC Source base sector 40965750 Destination base sector 40965750 Sectors compared: 417690 Sectors match: 417623 Sectors differ: 67 Bytes differ: 32354 Diffs range: 0-62, 1063, 2063, 3063, 4063 run start Tue Apr 5 16:55:30 2005 run finish Tue Apr 5 16:56:19 2005 elapsed time 0:0:49 Normal exit
Expected results:	*Partcmp* appends the log records to the existing log file with the name “pcmlog.txt”. It prompts the user for a

	comment, logs the comment, disks, partitions, prompts the user to select the partitions to be compared. It logs the other information as required. It compares the partitions selected by the user, including the boot tracks, and displays the result, including the number and range of different and equal sectors.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Pcm-06	
Case summary:	Compare logical Fat16 partitions with the source size smaller than the destination size, and with the same contents on the smaller size. Also compare the boot tracks for those partitions, by using the –boot option. Test whether *partcmp* creates a new log file with an alternate name although a file with the same name already exists, by using the –log_name and –new_log options.
Tester name:	Serban
Test date:	Tue Apr 5 17:00:12 2005
PC:	McMillan
Disks:	Source: IDE, /dev/hdb, external label “7F”, model MAXTOR 6L040J2, serial # 662201137770. Destination: SCSI, /dev/sda, external label “CC”, model ST336705LC, serial # 3DE03HL300008110CEHF
Execute:	Run *partcmp*: partcmp pcm-06 mcmillan serban /dev/hdb 7F /dev/sda CC -boot -log_name pcmlog.txt -new_log
Log files location:	Test-archive/partcmp/pcm-06
Log file highlights:	**Pcmlog.txt:** partcmp @(#) partcmp.c Linux Version 1.3 Created 03/15/05 at 17:25:33 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: partcmp pcm-06 mcmillan serban /dev/hdb 7F /dev/sda CC -boot -log_name pcmlog.txt -new_log TEST pcm-06 HOST mcmillan OPERATOR serban Comment: New alternate log file, src < dst, but equal

	contents on the lesser length Source disk Drive /dev/hdb 04865/254/63 (max cyl/hd values) 04866/255/63 (number of cyl/hd) 78177792 total number of sectors IDE disk: Model (MAXTOR 6L040J2) serial # (662201137770) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 018426492 0000/001/01 1023/254/63 0C Fat32X 2 P 018426555 022539195 1023/000/01 1023/254/63 83 Linux 3 X 040965750 000835380 1023/000/01 1023/254/63 0F extended 4 S 000000063 000417627 1023/001/01 1023/254/63 0B Fat32 5 x 000417690 000417690 1023/000/01 1023/254/63 05 extended 6 S 000000063 000417627 1023/001/01 1023/254/63 06 Fat16 7 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 8 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry P primary partition (1-4) S secondary (sub) partition X primary extended partition (1-4) x secondary extended partition Source disk partition 6 at 41383503 for 417627 Destination disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 020482812 0000/001/01 1023/254/63 0C Fat32X 2 P 020482875 020482875 1023/000/01 1023/254/63 83 Linux 3 X 040965750 001044225 1023/000/01 1023/254/63 0F extended

	4 S 000000063 000417627 1023/001/01 1023/254/63 0B Fat32 5 x 000417690 000626535 1023/000/01 1023/254/63 05 extended 6 S 000000063 000626472 1023/001/01 1023/254/63 06 Fat16 7 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 8 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry P primary partition (1-4) S secondary (sub) partition X primary extended partition (1-4) x secondary extended partition Destination disk partition 6 at 41383503 for 626472 Source disk fill byte 7F Destination disk fill byte CC Source base sector 41383440 Destination base sector 41383440 Sectors compared: 417690 Sectors match: 417627 Sectors differ: 63 Bytes differ: 30135 Diffs range: 0-62 Source (417690) has 208845 fewer sectors than destination (626535) Zero fill: 0 Src Byte fill (7F): 0 Dst Byte fill (CC): 208845 Other fill: 0 Other no fill: 0 Zero fill range: Src fill range: Dst fill range: 417690-626534 Other fill range: Other not filled range: run start Tue Apr 5 17:00:12 2005 run finish Tue Apr 5 17:01:31 2005 elapsed time 0:1:19 Normal exit
Expected results:	*Partcmp* creates a new log file “pcmlog.txt”, although a file with the same name already exists. It prompts the user for a comment, logs the comment, disks, partitions, prompts the user to select the partitions to be compared. It logs the other information as required. It compares the partitions selected by the user, including

	the boot tracks, and displays the result, including the number and range of different and equal sectors. It categorizes the surplus destination sectors.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Pcm-07	
Case summary:	Test whether *partcmp* detects invalid partition indexes, for example, indexes that point to empty partition table entries.
Tester name:	Serban
Test date:	Tue Apr 5 17:04:00 2005
PC:	McMillan
Disks:	Source: IDE, /dev/hdb, external label "7F", model MAXTOR 6L040J2, serial # 662201137770. Destination: SCSI, /dev/sda, external label "CC", model ST336705LC, serial # 3DE03HL300008110CEHF
Execute:	Run *partcmp* with partition indexes pointing to empty partition table entries: partcmp pcm-07 mcmillan serban /dev/hdb 7F /dev/sda CC -boot –new_log –select 8 8
Log files location:	Test-archive/partcmp/pcm-07
Log file highlights:	**Cmpptlog.txt:** partcmp @(#) partcmp.c Linux Version 1.3 Created 03/15/05 at 17:25:33 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: partcmp pcm-07 mcmillan serban /dev/hdb 7F /dev/sda CC -boot -new_log -select 8 8 TEST pcm-07 HOST mcmillan OPERATOR serban Comment: Indexes of empty entries Source disk Drive /dev/hdb 04865/254/63 (max cyl/hd values) 04866/255/63 (number of cyl/hd) 78177792 total number of sectors IDE disk: Model (MAXTOR 6L040J2) serial #

	(662201137770) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 018426492 0000/001/01 1023/254/63 0C Fat32X 2 P 018426555 022539195 1023/000/01 1023/254/63 83 Linux 3 X 040965750 000835380 1023/000/01 1023/254/63 0F extended 4 S 000000063 000417627 1023/001/01 1023/254/63 0B Fat32 5 x 000417690 000417690 1023/000/01 1023/254/63 05 extended 6 S 000000063 000417627 1023/001/01 1023/254/63 06 Fat16 7 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 8 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry P primary partition (1-4) S secondary (sub) partition X primary extended partition (1-4) x secondary extended partition Source disk partition 8 at 0 for 0 Destination disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 020482812 0000/001/01 1023/254/63 0C Fat32X 2 P 020482875 020482875 1023/000/01 1023/254/63 83 Linux 3 X 040965750 001044225 1023/000/01 1023/254/63 0F extended 4 S 000000063 000417627 1023/001/01 1023/254/63 0B Fat32 5 x 000417690 000626535 1023/000/01 1023/254/63 05 extended 6 S 000000063 000626472 1023/001/01 1023/254/63 06 Fat16 7 S 000000000 000000000 0000/000/00 0000/000/00

	00 empty entry 8 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry P primary partition (1-4) S secondary (sub) partition X primary extended partition (1-4) x secondary extended partition Destination disk partition 8 at 0 for 0 Source disk fill byte 7F Destination disk fill byte CC Source base sector 18446744073709551553 Destination base sector 18446744073709551553 read error at sector 0: src -1 dst -1
Expected results:	*Partcmp* issues an error message and terminates execution.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Pcm-08	
Case summary:	Test whether *partcmp* detects invalid partition indexes, for example, indexes that *do not point* to a partition table entry.
Tester name:	Serban
Test date:	Tue Apr 5 17:06:00 2005
PC:	McMillan
Disks:	Source: IDE, /dev/hdb, external label “7F”, model MAXTOR 6L040J2, serial # 662201137770. Destination: SCSI, /dev/sda, external label “CC”, model ST336705LC, serial # 3DE03HL300008110CEHF
Execute:	Run *partcmp* with partition indexes that do not point to any partition table entries: partcmp pcm-08 mcmillan serban /dev/hdb 7F /dev/sda CC -boot –new_log –select 9 9
Log files location:	Test-archive/partcmp/pcm-08
Log file highlights:	**Cmpptlog.txt:** partcmp @(#) partcmp.c Linux Version 1.3 Created 03/15/05 at 17:25:33 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46

	@(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: partcmp pcm-08 mcmillan serban /dev/hdb 7F /dev/sda CC -boot -new_log -select 9 9 TEST pcm-08 HOST mcmillan OPERATOR serban Comment: Indexes out of range
Expected results:	*Partcmp* terminates execution.
Actual results:	No error message issued, but no anomalies detected.
Analysis:	Expected results achieved.

Case Pcm-09	
Case summary:	Test whether *partcmp* displays its usage mode when invoked with the –h option.
Tester name:	Serban
Test date:	Tue Apr 5 17:04:00 2005
PC:	McMillan
Disks:	Source: IDE, /dev/hdb, external label “7F”, model MAXTOR 6L040J2, serial # 662201137770. Destination: SCSI, /dev/sda, external label “CC”, model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run *partcmp* without arguments, with incorrect arguments, with the –h option alone on the command line, with correct arguments and the –h option. Capture its standard output into a file: partcmp > output.txt partcmp pcm-09 mcmillan serban /dev/hdb –logname >> output.txt partcmp –h >> ooutput.txt partcmp pcm-08 mcmillan serban /dev/hdb 7F /dev/sda CC -boot –new_log –select 6 6 –h >> output.txt
Log files location:	Test-archive/partcmp/pcm-09
Log file highlights:	**Output.txt:** partcmp: Missing parameters Usage: partcmp test-case host operator src-drive src-fill dst-drive dst-fill [-options] -select src dst Select partitions to compare -boot Include Boot track in compare -comment " ... " Descriptive comment -new_log Start a new log file (default is append to old log file) -log_name <name> Use different log file (default is cmpptlog.txt)

	-h Print this option list …
Expected results:	*Partcmp* displays its usage mode in each case.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

3.2.6 *Diskcmp* Test Results Summary

Case Dcm-01	
Case summary:	Compare IDE/SCSI hard disk drives, when the source drive is larger than the destination drive, and they have the same contents on the smaller size. Also, test how *diskcmp* creates a log file with the default name, logs a one-word comment entered on the command line, logs the disks, the comparison result, and the program execution.
Tester name:	serban
Test date:	Wed Apr 6 09:38:33 2005
PC:	McMillan
Disks:	Source: IDE, /dev/hdb, external label "7F", model MAXTOR 6L040J2, serial # 662201137770. Destination: SCSI, /dev/sda, external label "CC", model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run ***diskcmp*** to compare the disks: diskcmp dcm-01 mcmillan serban /dev/hdb 7F /dev/sda CC -comment CompareDisks
Log files location:	Test-archive/diskcmp/dcm-01/
Log file highlights:	**Cmplog.txt:** diskcmp @(#) diskcmp.c Linux Version 1.2 Created 02/18/05 at 08:49:40 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskcmp dcm-01 mcmillan serban /dev/hdb 7F /dev/sda CC -comment CompareDisks TEST dcm-01 HOST mcmillan OPERATOR serban Comment: CompareDisks Source Drive /dev/hdb 04865/254/63 (max cyl/hd values) 04866/255/63 (number of cyl/hd) 78177792 total number of sectors IDE disk: Model (MAXTOR 6L040J2) serial # (662201137770) Destination Drive /dev/sda 04461/254/63 (max cyl/hd values)

	04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Sectors compared: 71687370 Sectors match: 71687370 Sectors differ: 0 Bytes differ: 0 Diffs range Source (78177792) has 6490422 more sectors than destination (71687370) 0 source read errors, 0 destination read errors run start Wed Apr 6 09:38:33 2005 run finish Wed Apr 6 10:42:32 2005 elapsed time 1:3:59 Normal exit
Expected results:	***Diskcmp*** creates a new log file with the default name "cmplog.txt". It logs the comment, the drives, and the other information required. *Diskcmp* compares the disks and logs the number of sectors compared, and the number of equal and different sectors.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Dcm-02	
Case summary:	Compare SCSI/IDE hard disk drives, when the source drive is smaller than the destination drive, and they have *almost* the same contents on the smaller size. Also, test how *diskcmp* appends the log records to an existing log file with the default name, logs a multi-word comment entered on the command line, logs the disks, the comparison result, and the program execution.
Tester name:	serban
Test date:	Wed Apr 6 11:23:49 2005
PC:	McMillan
Disks:	Destination: SCSI, /dev/sda, external label "CC", model ST336705LC, serial # 3DE03HL300008110CEHF. Source: IDE, /dev/hdb, external label "7F", model MAXTOR 6L040J2, serial # 662201137770.
Execute:	Modify a few sectors of the source disk (we assume that the drives had the same contents on the smaller size):

	diskchg dcm-02 mcmillan serban /dev/sda -fill 0 0 0 AA diskchg dcm-02 mcmillan serban /dev/sda -fill 1000000 1000000 0 AA diskchg dcm-02 mcmillan serban /dev/sda -fill 2000000 2000000 0 AA diskchg dcm-02 mcmillan serban /dev/sda -fill 71687369 71687369 0 AA Run ***diskcmp*** to compare the disks: diskcmp dcm-02 mcmillan serban /dev/sda CC /dev/hdb 7F -comment "Compare disks, src<dst, almost equal contents, append log"
Log files location:	Test-archive/diskcmp/dcm-02
Log file highlights:	**Cmplog.txt:** diskcmp @(#) diskcmp.c Linux Version 1.2 Created 02/18/05 at 08:49:40 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskcmp dcm-01 mcmillan serban /dev/hdb 7F /dev/sda CC -comment CompareDisks TEST dcm-01 HOST mcmillan OPERATOR serban Comment: CompareDisks Source Drive /dev/hdb 04865/254/63 (max cyl/hd values) 04866/255/63 (number of cyl/hd) 78177792 total number of sectors IDE disk: Model (MAXTOR 6L040J2) serial # (662201137770) Destination Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Sectors compared: 71687370 Sectors match: 71687370 Sectors differ: 0 Bytes differ: 0

	Diffs range Source (78177792) has 6490422 more sectors than destination (71687370) 0 source read errors, 0 destination read errors run start Wed Apr 6 09:38:33 2005 run finish Wed Apr 6 10:42:32 2005 elapsed time 1:3:59 Normal exit diskcmp @(#) diskcmp.c Linux Version 1.2 Created 02/18/05 at 08:49:40 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskcmp dcm-02 mcmillan serban /dev/sda CC /dev/hdb 7F -comment Compare disks, src<dst, almost equal contents, append log TEST dcm-02 HOST mcmillan OPERATOR serban Comment: Compare disks, src<dst, almost equal contents, append log Source Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Destination Drive /dev/hdb 04865/254/63 (max cyl/hd values) 04866/255/63 (number of cyl/hd) 78177792 total number of sectors IDE disk: Model (MAXTOR 6L040J2) serial # (662201137770) Sectors compared: 71687370 Sectors match: 71687366 Sectors differ: 4 Bytes differ: 1968 Diffs range 0, 1000000, 2000000, 71687369 Source (71687370) has 6490422 fewer sectors than destination (78177792) Zero fill: 3 Src Byte fill (CC): 0 Dst Byte fill (7F): 6490419

	Other fill: 0 Other no fill: 0 Zero fill range: 71687370, 71687380, 71689000 Src fill range: Dst fill range: 71687371-71687379, 71687381-71688999, 71689001-78177791 Other fill range: Other not filled range: 0 source read errors, 0 destination read errors run start Wed Apr 6 11:23:49 2005 run finish Wed Apr 6 12:32:21 2005 elapsed time 1:8:32 Normal exit
Expected results:	***Diskcmp*** appends the log records to the existing log file with the default name "cmplog.txt". It logs the comment, the drives, and the other information required. *Diskcmp* compares the disks and logs the number of sectors compared, and the number of equal and different sectors. It categorizes the destination surplus sectors.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Dcm-03	
Case summary:	Compare IDE hard disk drives with the same size, filled in diskwipe-style with the same value, and with a few different sectors at known addresses. Also, test whether *diskcmp* creates a new log file with the default name although a file with the same name already exists, by using the –new_log option. Test whether *diskcmp* prompts the user for a comment, logs the comment, disk drives, and other information required, compares the drives, logs the comparison result and the program execution.
Tester name:	Serban
Test date:	Thu Apr 7 07:17:36 2005
PC:	McMillan
Disks:	Source: IDE, /dev/hdb, external label "82", model WDC WD800BB-00CAA1, serial # WD-WCA8E5277475. Destination: IDE, /dev/hdd, external label "80", model WDC WD800BB-00CAA1, serial # WD-WCA8E5174999.
Execute:	Initialize both disks with the same value 0x82. Note: for the success of this test case, you need to check whether

	diskwipe detects and uses the same geometry for both disks; if not, you have to use the –heads option. diskwipe dcm-03 mcmillan serban /dev/hdb 82 –src diskwipe dcm-03 mcmillan serban /dev/hdd 82 –dst Modify a few sectors of the destination disk: diskchg dcm-03 mcmillan serban /dev/hdd -fill 0 0 0 AA diskchg dcm-03 mcmillan serban /dev/hdd -write 156301487 511 AA diskchg dcm-03 mcmillan serban /dev/hdd -zero 100000000 Run ***diskcmp*** to compare the disks: diskcmp dcm-03 mcmillan serban /dev/hdb 82 /dev/hdd 82 -new_log
Log files location:	Test-archive/diskcmp/dcm-03
Log file highlights:	**Cmplog.txt:** diskcmp @(#) diskcmp.c Linux Version 1.2 Created 02/18/05 at 08:49:40 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskcmp dcm-03 mcmillan serban /dev/hdb 82 /dev/hdd 82 -new_log TEST dcm-03 HOST mcmillan OPERATOR serban Comment: Compare same size disks, almost equal contents Source Drive /dev/hdb 09728/254/63 (max cyl/hd values) 09729/255/63 (number of cyl/hd) 156301488 total number of sectors IDE disk: Model (WDC WD800BB-00CAA1) serial # (WD-WCA8E5277475) Destination Drive /dev/hdd 09728/254/63 (max cyl/hd values) 09729/255/63 (number of cyl/hd) 156301488 total number of sectors IDE disk: Model (WDC WD800BB-00CAA1) serial #

	(WD-WCA8E5174999) Sectors compared: 156301488 Sectors match: 156301485 Sectors differ: 3 Bytes differ: 998 Diffs range 0, 100000000, 156301487 0 source read errors, 0 destination read errors run start Thu Apr 7 07:17:36 2005 run finish Thu Apr 7 09:51:55 2005 elapsed time 2:34:19 Normal exit
Expected results:	***Diskcmp*** creates a new log file with the default name "cmplog.txt, although a log file with the same name already exists. It prompts the user for a comment. It logs the comment, the drives, and the other information required. *Diskcmp* compares the disks and logs the number of sectors compared, and the number of equal and different sectors.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Dcm-04	
Case summary:	Compare IDE hard disk drives with the same size, filled in diskwipe-style with different fill values and with only a few equal sectors at known addresses. Also, test whether *diskcmp* creates a log file with the alternate name specified in the –log_name option.
Tester name:	Serban
Test date:	Wed Apr 13 11:08:22 2005
PC:	McMillan
Disks:	Source: IDE, /dev/hdb, external label "82", model WDC WD800BB-00CAA1, serial # WD-WCA8E5277475. Destination: IDE, /dev/hdd, external label "80", model WDC WD800BB-00CAA1, serial # WD-WCA8E5174999.
Execute:	Initialize source disk with 0x82, destination disk with 0x80. To make sure that *diskwipe* uses the same geometry when computing the C/H/S address to be written in the sector headers, use the –heads option with the value 255: diskwipe dcm-04 mcmillan serban /dev/hdb 82 –heads 255 –noask –new_log –src

	diskwipe dcm-04 mcmillan serban /dev/hdd 80 –heads 255 –noask –new_log –dst Fill a few sectors of the destination disk with the same value as the one used for the source, using the same geometry (255): diskchg dcm-04 mcmillan serban /dev/hdd -fill 1000000 1000000 255 82 diskchg dcm-04 mcmillan serban /dev/hdd -fill 2000000 2000000 255 82 diskchg dcm-04 mcmillan serban /dev/hdd -fill 3000000 3000000 255 82 Run ***diskcmp*** to compare the disks: diskcmp dcm-04 mcmillan serban /dev/hdb 82 /dev/hdd 80 –log_name diskcmplog.txt
Log files location:	Test-archive/diskcmp/dcm-04
Log file highlights:	**Diskcmplog.txt:** diskcmp @(#) diskcmp.c Linux Version 1.2 Created 02/18/05 at 08:49:40 compiled on Mar 25 2005 at 19:16:47 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: diskcmp dcm-04 mcmillan serban /dev/hdb 82 /dev/hdd 80 -log_name diskcmplog.txt TEST dcm-04 HOST mcmillan OPERATOR serban Comment: Alternate log file name, a few sectors equal Source Drive /dev/hdb 09728/254/63 (max cyl/hd values) 09729/255/63 (number of cyl/hd) 156301488 total number of sectors IDE disk: Model (WDC WD800BB-00CAA1) serial # (WD-WCA8E5277475) Destination Drive /dev/hdd 23988/015/63 (max cyl/hd values) 23989/016/63 (number of cyl/hd) 156301488 total number of sectors IDE disk: Model (WDC WD800BB-00CAA1) serial # (WD-WCA8E5174999)

	Sectors compared: 156301488 Sectors match: 3 Sectors differ: 156301485 Bytes differ: 75962521710 Diffs range 0-999999, 1000001-1999999, 2000001-2999999, 3000001-156301487 0 source read errors, 0 destination read errors run start Wed Apr 13 11:08:22 2005 run finish Wed Apr 13 13:54:19 2005 elapsed time 2:45:57 Normal exit
Expected results:	***Diskcmp*** creates a new log file with the alternate name "diskcmplog.txt". It prompts the user for a comment. It logs the comment, the drives, and the other information required. *Diskcmp* compares the disks and logs the number of sectors compared, and the number and range of equal and different sectors.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Dcm-05	
Case summary:	Test whether *diskcmp* displays its usage mode when invoked with the –h option.
Tester name:	Serban
Test date:	Wed Apr 13 11:08:22 2005
PC:	McMillan
Disks:	None.
Execute:	Run ***diskcmp*** without arguments, with incorrect arguments, with the –h option alone on the command line, with correct arguments and the –h option on the command line, and capture the standard output into a file: diskcmp > output.txt diskcmp dcm-05 mcmillan serban /dev/hdb 82 /dev/hdd –logname >> output.txt diskcmp –h >> output.txt diskcmp dcm-05 mcmillan serban /dev/hdb 82 /dev/hdd 80 –log_name diskcmplog.txt –h >> output.txt
Log files location:	Test-archive/diskcmp/dcm-05
Log file highlights:	**output.txt:** Usage: diskcmp test-case host operator src-drive src-fill dst-drive dst-fill [-options]

	-comment " ... " Descriptive comment -new_log Start a new log file (default is append to old log file) -log_name <name> Use different log file (default is cmplog.txt) -h Print this option list …
Expected results:	***Diskcmp*** displays its usage mode in each case.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

3.2.7 *Corrupt* Test Results Summary

Case Cor-01	
Case summary:	Test whether *corrupt* alters the first byte of an image file, creates a log file with the default name, logs a comment entered on the command line, logs the program execution, the original and altered byte value, and all other information required by the specifications. Use the –comment option with a one-word comment.
Tester name:	Serban
Test date:	Thu Apr 14 06:53:45 2005
PC:	McMillan
Disks:	Media: IDE, /dev/hdd, external label “80”, model WDC WD800BB-00CAA1, serial # WD-WCA8E5174999. Mounted on directory /media.
Execute:	Run ***corrupt***: corrupt cor-01 mcmillan serban /media/imgfile 0 41 -comment AlterFirstByte Compare the altered file “imgfile” with the reference copy: cmp -l /media/imgfile /media/copy-of-imgfile > diff.txt Note: The byte offset in cmp’s output starts with 1. The byte values are listed in octal.
Log files location:	Test-archive/corrupt/cor-01/
Log file highlights:	**Corlog.txt:** corrupt @(#) corrupt.c Linux Version 1.2 Created 02/18/05 at 08:49:40 compiled on Mar 25 2005 at 19:16:46 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: corrupt cor-01 mcmillan serban /media/imgfile 0 41 -comment AlterFirstByte TEST cor-01 HOST mcmillan OPERATOR serban Comment: AlterFirstByte Change byte 0 of file /media/imgfile from 0x30 to 0x41 run start Thu Apr 14 06:53:45 2005

	run finish Thu Apr 14 06:53:45 2005 elapsed time 0:0:0 Normal exit **Diff.txt:** 1 101 60
Expected results:	***corrupt*** creates a new log file with the default name "corlog.txt". Alters the first byte of the image file as requested. Logs the comment, the original and new values of the altered byte, and the other information required.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Cor-02	
Case summary:	Test whether *corrupt* alters the last byte of an image file, appends the log records to an existing log file with the default name, logs a multi-word comment entered on the command line, logs the program execution, the original and altered byte value, and all other information required by the specifications.
Tester name:	Serban
Test date:	Thu Apr 14 07:59:25 2005
PC:	McMillan
Disks:	Media: IDE, /dev/hdd, external label "80", model WDC WD800BB-00CAA1, serial # WD-WCA8E5174999. Mounted on directory /media.
Execute:	Run ***corrupt***: corrupt cor-02 mcmillan serban /media/imgfile 17247252479 41 -comment "Alter last byte, append log" Compare the altered file "imgfile" with the reference copy: cmp -l /media/imgfile /media/copy-of-imgfile > diff.txt Note: The byte offset in cmp's output starts with 1. The byte values are listed in octal.
Log files location:	Test-archive/corrupt/cor-02
Log file highlights:	**Corlog.txt:** -----Log of the previous test case, followed by----- corrupt @(#) corrupt.c Linux Version 1.2 Created

	02/18/05 at 08:49:40 compiled on Mar 25 2005 at 19:16:46 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: corrupt cor-02 mcmillan serban /media/imgfile 17247252479 41 -comment Alter last byte, append log TEST cor-02 HOST mcmillan OPERATOR serban Comment: Alter last byte, append log Change byte 17247252479 of file /media/imgfile from 0xCC to 0x41 run start Thu Apr 14 07:59:25 2005 run finish Thu Apr 14 07:59:25 2005 elapsed time 0:0:0 Normal exit **Diff.txt:** 1 101 60 17247252480 101 314
Expected results:	***Corrupt*** appends the log records to the log file with the default name "corlog.txt" created in the previous test case. Alters the last byte of the image file as requested. Logs the comment, the original and new values of the altered byte, and the other information required.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Cor-03	
Case summary:	Test whether *corrupt* alters an arbitrary byte of an image file, creates a new log file with the default name although a log file with the same name already exists by using the –new_log option, prompts the user to enter a comment, logs the comment, the program execution, the original and the new values of the altered byte, and other information required by the specifications.
Tester name:	Serban
Test date:	Thu Apr 14 14:55:21 2005
PC:	McMillan
Disks:	Media: IDE, /dev/hdd, external label "80", model WDC WD800BB-00CAA1, serial # WD-WCA8E5174999. Mounted on directory /media.

Execute:	Run ***corrupt***: corrupt cor-03 mcmillan serban /media/imgfile 10000000000 41 -new_log Compare the altered file “imgfile” with the reference copy: cmp -l /media/imgfile /media/copy-of-imgfile > diff.txt Note: The byte offset in cmp’s output starts with 1. The byte values are listed in octal.
Log files location:	Test-archive/corrupt/cor-03
Log file highlights:	**Corlog.txt:** corrupt @(#) corrupt.c Linux Version 1.2 Created 02/18/05 at 08:49:40 compiled on Mar 25 2005 at 19:16:46 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: corrupt cor-03 mcmillan serban /media/imgfile 10000000000 41 -new_log TEST cor-03 HOST mcmillan OPERATOR serban Comment: Alter a byte somewhere in the middle, new log file Change byte 10000000000 of file /media/imgfile from 0x30 to 0x41 run start Thu Apr 14 14:55:21 2005 run finish Thu Apr 14 14:55:42 2005 elapsed time 0:0:21 Normal exit **Diff.txt:** 1 101 60 10000000001 101 60 17247252480 101 314
Expected results:	***corrupt*** creates a new log file with the default name “corlog.txt”. Alters the specified byte of the image file as requested. Logs the comment, the original and new values of the altered byte, and the other information required.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Cor-04	
Case summary:	Test whether *corrupt* alters an arbitrary byte of an image file, creates a log file with an alternate name as specified by the –log_name option, prompts the user to enter a comment, logs the comment, the program execution, the original and the new values of the altered byte, and other information required by the specifications.
Tester name:	Serban
Test date:	Thu Apr 14 15:49:30 2005
PC:	McMillan
Disks:	Media: IDE, /dev/hdd, external label “80”, model WDC WD800BB-00CAA1, serial # WD-WCA8E5174999. Mounted on directory /media.
Execute:	Run ***corrupt***: corrupt cor-04 mcmillan serban /media/imgfile 10000000001 41 -log_name corruptlog.txt Compare the altered file “imgfile” with the reference copy: cmp -l /media/imgfile /media/copy-of-imgfile > diff.txt
Log files location:	Test-archive/corrupt/cor-04
Log file highlights:	**Corruptlog.txt:** corrupt @(#) corrupt.c Linux Version 1.2 Created 02/18/05 at 08:49:40 compiled on Mar 25 2005 at 19:16:46 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: corrupt cor-04 mcmillan serban /media/imgfile 10000000001 41 -log_name corruptlog.txt TEST cor-04 HOST mcmillan OPERATOR serban Comment: Alternate log file name Change byte 10000000001 of file /media/imgfile from 0x31 to 0x41 run start Thu Apr 14 15:49:30 2005 run finish Thu Apr 14 15:49:39 2005 elapsed time 0:0:9 Normal exit
Expected results:	***corrupt*** creates a new log file with the alternate name

	"corruptlog.txt". Alters the specified byte of the image file as requested. Logs the comment, the original and new values of the altered byte, and the other information required.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Cor-05	
Case summary:	Test whether *corrupt* detects an invalid byte offset within the image file, i.e., the specified offset is larger than the image file size.
Tester name:	Serban
Test date:	Thu Apr 14 15:51:00 2005
PC:	McMillan
Disks:	Media: IDE, /dev/hdd, external label "80", model WDC WD800BB-00CAA1, serial # WD-WCA8E5174999. Mounted on directory /media.
Execute:	Run ***corrupt***: corrupt cor-05 mcmillan serban /media/imgfile 17247252480 41 -new_log
Log files location:	Test-archive/corrupt/cor-05
Log file highlights:	*Corrupt* does not create the log file, but displays an error message on the standard output: corrupt: Read failed
Expected results:	***corrupt*** displays an error message.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Cor-06	
Case summary:	Test whether *corrupt* displays its usage mode when invoked with the –h option.
Tester name:	Serban
Test date:	Thu Apr 14 15:53:00 2005
PC:	McMillan
Disks:	None.
Execute:	Run ***corrupt*** without arguments, with incorrect arguments, with the –h option alone on the command line, with correct arguments plus the –h option. Capture the standard output into a file:

	corrupt > output.txt corrupt cor-06 mcmillan serban /media/imgfile -logname >> output.txt corrupt –h >> output.txt corrupt cor-05 mcmillan serban /media/imgfile 10000000 41 -new_log –h >> output.txt
Log files location:	Test-archive/corrupt/cor-06
Log file highlights:	**Output.txt:** corrupt compiled at 19:16:46 on Mar 25 2005 Usage: corrupt test-case host operator file_name offset hex_value [-options] -comment " ... " Give comment on command line -new_log Start a new log file (default is append to old log file) -log_name <name> Use different log file (default is corlog.txt) -h Print this option list
Expected results:	***corrupt*** displays its usage mode in each case.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

3.2.8 *Logsetup* Test Results Summary

Case Lgs-01	
Case Summary:	Run ***logsetup*** to log information about the setup of a hard disk drive.
Tester Name:	serban
Test Date:	Mon Apr 4 18:03:29 2005
PC:	McMillan
Disks:	None.
Execute:	Run ***logsetup*** with arguments as specified in the FS-TST2.0 document: logsetup CC:/dev/sda McMillan serban None
Log Files location:	Test-archive\logsetup\lgs-01\
Log File Highlights:	**Setup.txt:** Disk: CC:/dev/sda Host: McMillan Operator: serban OS: none Date: Mon Apr 4 18:03:29 2005
Expected Results:	***Logsetup*** creates a new log file setup.txt. It records the disk, the host, the operator, and the operating system as specified on the command line. It also records the date and time of execution.
Actual Results:	No anomalies detected.
Analysis:	Expected results were achieved.

3.2.9 *Logcase* Test Results Summary

Case Lgc-01	
Case Summary:	Test whether ***logcase*** logs the information provided by the user on its command line accompanied by the time and date of its execution.
Tester Name:	serban
Test Date:	Mon Apr 4 18:05:36 2005
PC:	McMillan
Disks:	None.
Execute:	Run ***logcase***: logcase pcm-01 McMillan serban CC:/dev/sda 7F:/dev/hdb none
Log Files location:	Test-archive\Logcase\Lgc-01\
Log File Highlights:	**Case.txt:** Case: pcm-01 Host: McMillan Operator: serban Disks: src(CC:/dev/sda) dst (7F:/dev/hdb) other (none) Date: Mon Apr 4 18:05:36 2005
Expected Results:	***Logcase*** creates a new log file "case.txt". It records the arguments provided by the user on the command line, accompanied by the date and time of its execution.
Actual Results:	No anomalies detected.
Analysis:	Expected results were achieved.

3.2.10 *Adjcmp* Test Results Summary

Case Acm-01	
Case summary:	Test whether *adjcmp*: -creates a log file with the default name when no log file exists; -logs a one-word comment entered on the command line in the –comment option; -logs the source and destination drives; -logs the program execution; -logs the partition tables of each drive; -detects the disk layouts and displays the location of each disk chunk when using the –layout option, when the source primary and logical partitions correspond naturally to destination partitions with the same type, size, and contents; the destination disk has an additional logical NTFS partition. All partitions are separated by unallocated space.
Tester name:	Serban
Test date:	Mon Mar 28 15:51:58 2005
PC:	McMillan
Disks:	Source: IDE, /dev/hdb, external label “7F”, model MAXTOR 6L040J2, serial # 662201137770. Destination: SCSI, /dev/sda, external label “CC”, model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run ***adjcmp***: adjcmp acm-01 mcmillan serban /dev/hdb 7F /dev/sda CC -layout -comment Layout
Log files location:	Test-archive/adjcmp/acm-01/
Log file highlights:	**cmpalog.txt:** adjcmp @(#) adjcmp.c Linux Version 1.4 Created 03/25/05 at 19:16:24 compiled on Mar 25 2005 at 19:16:46 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: adjcmp acm-01 mcmillan serban /dev/hdb 7F /dev/sda CC -layout -comment Layout

	TEST acm-01 HOST mcmillan OPERATOR serban Comment: Layout Src drive /dev/hdb dst drive /dev/sda Src fill 0x7F dst fill 0xCC Source Disk Drive /dev/hdb 04865/254/63 (max cyl/hd values) 04866/255/63 (number of cyl/hd) 78177792 total number of sectors IDE disk: Model (MAXTOR 6L040J2) serial # (662201137770) Source disk partition table Start LBA Length Start C/H/S End C/H/S boot Partition type P 000000063 006152832 0000/001/01 0382/254/63 0B Fat32 P 006185025 004096575 0385/000/01 0639/254/63 83 Linux X 010313730 000867510 0642/000/01 0695/254/63 05 extended S 000000063 000417627 0642/001/01 0667/254/63 06 Fat16 x 000449820 000417690 0670/000/01 0695/254/63 05 extended S 000000063 000417627 0670/001/01 0695/254/63 0B Fat32 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry P primary partition (1-4) S secondary (sub) partition X primary extended partition (1-4) x secondary extended partition Source disk layout: 04866/255/63 78177792 total sectors on disk Start LBA End LBA Length Size: MB (binary) 0 B 0 62 63 0.03MB 0.03BMB 1 P 63 6152894 6152832 3150.25MB 3004.31BMB 2 U 6152895 6185024 32130 16.45MB 15.69BMB 3 P 6185025 10281599 4096575 2097.45MB 2000.28BMB 4 U 10281600 10313729 32130 16.45MB 15.69BMB 5 b 10313730 10313792 63 0.03MB 0.03BMB

	6 P 10313793 10731419 417627 213.83MB 203.92BMB 7 U 10731420 10763549 32130 16.45MB 15.69BMB 8 b 10763550 10763612 63 0.03MB 0.03BMB 9 P 10763613 11181239 417627 213.83MB 203.92BMB 10 U 11181240 78177791 66996552 34302.23MB 32713.16BMB Destination Disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Destination disk partition table Start LBA Length Start C/H/S End C/H/S boot Partition type P 000000063 006152832 0000/001/01 0382/254/63 0B Fat32 P 006185025 004096575 0385/000/01 0639/254/63 83 Linux X 010313730 001317330 0642/000/01 0723/254/63 05 extended S 000000063 000417627 0642/001/01 0667/254/63 06 Fat16 x 000449820 000417690 0670/000/01 0695/254/63 05 extended S 000000063 000417627 0670/001/01 0695/254/63 0B Fat32 x 000899640 000417690 0698/000/01 0723/254/63 05 extended S 000000063 000417627 0698/001/01 0723/254/63 07 NTFS S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry P primary partition (1-4) S secondary (sub) partition X primary extended partition (1-4) x secondary extended partition Destination disk layout: 04462/255/63 71687370 total sectors on disk Start LBA End LBA Length Size: MB (binary)

	0 B 0 62 63 0.03MB 0.03BMB 1 P 63 6152894 6152832 3150.25MB 3004.31BMB 2 U 6152895 6185024 32130 16.45MB 15.69BMB 3 P 6185025 10281599 4096575 2097.45MB 2000.28BMB 4 U 10281600 10313729 32130 16.45MB 15.69BMB 5 b 10313730 10313792 63 0.03MB 0.03BMB 6 P 10313793 10731419 417627 213.83MB 203.92BMB 7 U 10731420 10763549 32130 16.45MB 15.69BMB 8 b 10763550 10763612 63 0.03MB 0.03BMB 9 P 10763613 11181239 417627 213.83MB 203.92BMB 10 U 11181240 11213369 32130 16.45MB 15.69BMB 11 b 11213370 11213432 63 0.03MB 0.03BMB 12 P 11213433 11631059 417627 213.83MB 203.92BMB 13 U 11631060 71687369 60056310 30748.83MB 29324.37BMB run start Mon Mar 28 15:51:58 2005 run finish Mon Mar 28 15:51:58 2005 elapsed time 0:0:0 Normal exit
Expected results:	*Adjcmp* creates a new log file “cmpalog.txt”. It logs the comment, the drives, the program execution, the partition tables of each drive, the location, size, type of each disk chunk. It logs all other information required (compilation date, libraries, etc.)
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Acm-02	
Case summary:	Test whether *adjcmp*: -creates a new log file with the default name when a log file with the same name already exists, by using the –new_log option; -logs a multi-word comment entered on the command line in the –comment option; -automatically assigns source chunks to destination chunks

	in a natural assignment order; -compares the assigned chunks and records the correct results; -categorizes surplus destination chunks, when the first source chunks have the same type, size, and contents as the assigned destination chunks, and the destination drive has surplus chunks.
Tester name:	serban
Test date:	Mon Mar 28 15:54:14 2005
PC:	McMillan
Disks:	Source: IDE, /dev/hdb, external label “7F”, model MAXTOR 6L040J2, serial # 662201137770. Destination: SCSI, /dev/sda, external label “CC”, model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run ***adjcmp***: adjcmp acm-02 mcmillan serban /dev/hdb 7F /dev/sda CC –new_log -comment "Compare automatically assigned partitions”
Log files location:	Test-archive/adjcmp/acm-02
Log file highlights:	**Cmpalog.txt:** adjcmp @(#) adjcmp.c Linux Version 1.4 Created 03/25/05 at 19:16:24 compiled on Mar 25 2005 at 19:16:46 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: adjcmp acm-02 mcmillan serban /dev/hdb 7F /dev/sda CC -new_log -comment Compare automatically assigned partitions TEST acm-02 HOST mcmillan OPERATOR serban Comment: Compare automatically assigned partitions Src drive /dev/hdb dst drive /dev/sda Src fill 0x7F dst fill 0xCC Source Disk Drive /dev/hdb 04865/254/63 (max cyl/hd values) 04866/255/63 (number of cyl/hd) 78177792 total number of sectors IDE disk: Model (MAXTOR 6L040J2) serial # (662201137770) Source disk partition table Start LBA Length Start C/H/S End C/H/S boot Partition

	type P 000000063 006152832 0000/001/01 0382/254/63 0B Fat32 P 006185025 004096575 0385/000/01 0639/254/63 83 Linux X 010313730 000867510 0642/000/01 0695/254/63 05 extended S 000000063 000417627 0642/001/01 0667/254/63 06 Fat16 x 000449820 000417690 0670/000/01 0695/254/63 05 extended S 000000063 000417627 0670/001/01 0695/254/63 0B Fat32 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry P primary partition (1-4) S secondary (sub) partition X primary extended partition (1-4) x secondary extended partition Source disk layout: 04866/255/63 78177792 total sectors on disk Start LBA End LBA Length Size: MB (binary) 0 B 0 62 63 0.03MB 0.03BMB 1 P 63 6152894 6152832 3150.25MB 3004.31BMB 2 U 6152895 6185024 32130 16.45MB 15.69BMB 3 P 6185025 10281599 4096575 2097.45MB 2000.28BMB 4 U 10281600 10313729 32130 16.45MB 15.69BMB 5 b 10313730 10313792 63 0.03MB 0.03BMB 6 P 10313793 10731419 417627 213.83MB 203.92BMB 7 U 10731420 10763549 32130 16.45MB 15.69BMB 8 b 10763550 10763612 63 0.03MB 0.03BMB 9 P 10763613 11181239 417627 213.83MB 203.92BMB 10 U 11181240 78177791 66996552 34302.23MB 32713.16BMB Destination Disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors

	Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Destination disk partition table Start LBA Length Start C/H/S End C/H/S boot Partition type P 000000063 006152832 0000/001/01 0382/254/63 0B Fat32 P 006185025 004096575 0385/000/01 0639/254/63 83 Linux X 010313730 001317330 0642/000/01 0723/254/63 05 extended S 000000063 000417627 0642/001/01 0667/254/63 06 Fat16 x 000449820 000417690 0670/000/01 0695/254/63 05 extended S 000000063 000417627 0670/001/01 0695/254/63 0B Fat32 x 000899640 000417690 0698/000/01 0723/254/63 05 extended S 000000063 000417627 0698/001/01 0723/254/63 07 NTFS S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry P primary partition (1-4) S secondary (sub) partition X primary extended partition (1-4) x secondary extended partition Destination disk layout: 04462/255/63 71687370 total sectors on disk Start LBA End LBA Length Size: MB (binary) 0 B 0 62 63 0.03MB 0.03BMB 1 P 63 6152894 6152832 3150.25MB 3004.31BMB 2 U 6152895 6185024 32130 16.45MB 15.69BMB 3 P 6185025 10281599 4096575 2097.45MB 2000.28BMB 4 U 10281600 10313729 32130 16.45MB 15.69BMB 5 b 10313730 10313792 63 0.03MB 0.03BMB 6 P 10313793 10731419 417627 213.83MB 203.92BMB 7 U 10731420 10763549 32130 16.45MB 15.69BMB

	8 b 10763550 10763612 63 0.03MB 0.03BMB 9 P 10763613 11181239 417627 213.83MB 203.92BMB 10 U 11181240 11213369 32130 16.45MB 15.69BMB 11 b 11213370 11213432 63 0.03MB 0.03BMB 12 P 11213433 11631059 417627 213.83MB 203.92BMB 13 U 11631060 71687369 60056310 30748.83MB 29324.37BMB Matching regions Start End Length Start End Length 0 B 0 62 63 => 0 B 0 62 63 1 P 63 6152894 6152832 => 1 P 63 6152894 6152832 2 U 6152895 6185024 32130 => 2 U 6152895 6185024 32130 3 P 6185025 10281599 4096575 => 3 P 6185025 10281599 4096575 4 U 10281600 10313729 32130 => 4 U 10281600 10313729 32130 5 b 10313730 10313792 63 => 5 b 10313730 10313792 63 6 P 10313793 10731419 417627 => 6 P 10313793 10731419 417627 7 U 10731420 10763549 32130 => 7 U 10731420 10763549 32130 8 b 10763550 10763612 63 => 8 b 10763550 10763612 63 9 P 10763613 11181239 417627 => 9 P 10763613 11181239 417627 10 U 11181240 78177791 66996552 => 10 U 11181240 11213369 32130 Unmatched destination regions Start End Length 11b 11213370 11213432 63 12P 11213433 11631059 417627 13U 11631060 71687369 60056310 Chunk class codes: b/B Boot track, P partition, U unallocated ========== Compare region 0 of 10: src(0,63,B) dst (0,63,B) Src base 0 Dst base 0 Sectors compared: 63 Sectors match: 62

	Sectors differ: 1 Bytes differ: 4 Diffs range: 0 ========== Compare region 1 of 10: src(63,6152832,P) dst (63,6152832,P) Src base 63 Dst base 63 Sectors compared: 6152832 Sectors match: 6152832 Sectors differ: 0 Bytes differ: 0 Diffs range: ========== Compare region 2 of 10: src(6152895,32130,U) dst (6152895,32130,U) Src base 6152895 Dst base 6152895 Sectors compared: 32130 Sectors match: 32126 Sectors differ: 4 Bytes differ: 26 Diffs range: 2, 24, 26, 16386 ========== Compare region 3 of 10: src(6185025,4096575,P) dst (6185025,4096575,P) Src base 6185025 Dst base 6185025 Sectors compared: 4096575 Sectors match: 4096575 Sectors differ: 0 Bytes differ: 0 Diffs range: ========== Compare region 4 of 10: src(10281600,32130,U) dst (10281600,32130,U) Src base 10281600 Dst base 10281600 Sectors compared: 32130 Sectors match: 503 Sectors differ: 31627 Bytes differ: 219650 Diffs range: 63, 504-32129 ========== Compare region 5 of 10: src(10313730,63,b) dst

	(10313730,63,b) Src base 10313730 Dst base 10313730 Sectors compared: 63 Sectors match: 1 Sectors differ: 62 Bytes differ: 372 Diffs range: 1-62 ========== Compare region 6 of 10: src(10313793,417627,P) dst (10313793,417627,P) Src base 10313793 Dst base 10313793 Sectors compared: 417627 Sectors match: 417627 Sectors differ: 0 Bytes differ: 0 Diffs range: ========== Compare region 7 of 10: src(10731420,32130,U) dst (10731420,32130,U) Src base 10731420 Dst base 10731420 Sectors compared: 32130 Sectors match: 6460 Sectors differ: 25670 Bytes differ: 159584 Diffs range: 1-63, 69, 6524-32129 ========== Compare region 8 of 10: src(10763550,63,b) dst (10763550,63,b) Src base 10763550 Dst base 10763550 Sectors compared: 63 Sectors match: 0 Sectors differ: 63 Bytes differ: 414 Diffs range: 0-62 ========== Compare region 9 of 10: src(10763613,417627,P) dst (10763613,417627,P) Src base 10763613 Dst base 10763613 Sectors compared: 417627 Sectors match: 417627 Sectors differ: 0 Bytes differ: 0

	Diffs range: ========== Compare region 10 of 10: src(11181240,66996552,U) dst (11181240,32130,U) Src base 11181240 Dst base 11181240 Sectors compared: 32130 Sectors match: 32095 Sectors differ: 35 Bytes differ: 17397 Diffs range: 0, 63, 79, 95-126 Source (66996552) has 66964422 more sectors than destination (32130) Examine unmatched regions of destination ========== Examine: 11b 11213370-- 11213432 63 scanning 63 unmatched sectors: 11213370--11213433 Zero fill: 0 Src Byte fill (7F): 62 Dst Byte fill (CC): 0 Other fill (00): 0 Other no fill: 1 Zero fill range: Src fill range: 11213371-11213432 Dst fill range: Other fill range: Other not filled range: 11213370 ========== Examine: 12P 11213433-- 11631059 417627 scanning 417627 unmatched sectors: 11213433--11631060 Zero fill: 324 Src Byte fill (7F): 416430 Dst Byte fill (CC): 0 Other fill (FF): 240 Other no fill: 633 Zero fill range: 11394313-11394377, 11394380-11394428, 11394432-11394479, 11426443-11426507, 11426510-11426558, 11426562-11426609 Src fill range: 11213434-11213464, 11213497-11222590, 11222599-11222705, 11222714-11255358, 11255367-11255473, 11255482-11288126, 11288135-11288241, 11288250-

	11320894, 11320903-11321009, 11321018-11353662, 11353671-11353777, 11353786-11386430, 11386439-11386545, 11386554-11390115, 11390148-11390155, 11390164-11394307, 11394745-11419198, 11419207-11419313, 11419322-11422245, 11422278-11422285. . . + 208231 more Dst fill range: Other fill range: 11222591-11222598, 11222706-11222713, 11255359-11255366, 11255474-11255481, 11288127-11288134, 11288242-11288249, 11320895-11320902, 11321010-11321017, 11353663-11353670, 11353778-11353785, 11386431-11386438, 11386546-11386553, 11390141-11390147, 11390156-11390163, 11394430, 11419199-11419206, 11419314-11419321, 11422271-11422277, 11422286-11422293, 11426560. . . + 96 more Other not filled range: 11213433, 11213465-11213496, 11390116-11390140, 11394308-11394312, 11394378-11394379, 11394429, 11394431, 11394480-11394744, 11422246-11422270, 11426438-11426442, 11426508-11426509, 11426559, 11426561, 11426610-11426874, 11598929, 11631059 ========== Examine: 13U 11631060-- 71687369 60056310 scanning 60056310 unmatched sectors: 11631060--71687370 Zero fill: 807699 Src Byte fill (7F): 59100886 Dst Byte fill (CC): 1 Other fill (FF): 2063 Other no fill: 145661 Zero fill range: 12369476-12369478, 12787811-12787834, 12787836-12791048, 12791050-12794262, 12794264, 12996656-12996679, 12996681-12998286, 12998288-12999894, 13188791-13188793,

	13205501-13205524, 13205526-13208738, 13208740-13211953, 20482946-20482969, 20482971-20492962, 20492964-20502971, 24579453, 24579549, 24579553, 24579555-24580063, 24580065. . . + 771017 more Src fill range: 11631060-11648574, 11648583-11648689, 11648698-11681342, 11681351-11681457, 11681466-11714110, 11714119-11714225, 11714234-11746878, 11746887-11746993, 11747002-11779646, 11779655-11779761, 11779770-11812414, 11812423-11812529, 11812538-11845182, 11845191-11845297, 11845306-11877950, 11877959-11878065, 11878074-11910718, 11910727-11910833, 11910842-11943486, 11943495-11943601. . . + 58788496 more Dst fill range: 71687369 Other fill range: 11648575-11648582, 11648690-11648697, 11681343-11681350, 11681458-11681465, 11714111-11714118, 11714226-11714233, 11746879-11746886, 11746994-11747001, 11779647-11779654, 11779762-11779769, 11812415-11812422, 11812530-11812537, 11845183-11845190, 11845298-11845305, 11877951-11877958, 11878066-11878073, 11910719-11910726, 11910834-11910841, 11943487-11943494, 11943602-11943609. . . + 1903 more Other not filled range: 12289724, 12369475, 12787740, 12787803-12787810, 12787835, 12791049, 12996585, 12996648-12996655, 12996680, 12998287, 13188790, 13205430, 13205493-13205500, 13205525, 13208739, 20482875, 20482938-20482945, 20482970, 20492963, 24579452. . . + 145613 more Summary Boot tracks 3 189 diffs 126 Partitions 4 11084661 diffs 0

	Unallocated 4 128520 diffs 57336 Total src sectors 11213370 Partition excess 0 zero 0 non-zero 0 Disk excess 60474000 zero 808023 non-zero 59665977 Total dst sectors 71687370 run start Mon Mar 28 15:54:14 2005 run finish Mon Mar 28 16:31:22 2005 elapsed time 0:37:8 Normal exit
Expected results:	*Adjcmp* creates a new log file "cmpalog.txt", although a file with the same name already exists. It logs the comment, the drives, the program execution, the partition tables of each drive, the location, size, type of each disk chunk. It assigns the source chunks to the destination chunks in a natural way, compares them and logs the correct results, then categorizes the sectors of the surplus destination chunks. It logs all other information required (compilation date, libraries, etc.)
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Acm-03	
Case summary:	Test whether *adjcmp*: -appends the log records to an existing log file with the default name; -prompts the user for a comment and logs the comment; -lets the user assign the disk chunks by using the –assign option; -compares the assigned chunks and records the correct results; -categorizes surplus destination chunks.
Tester name:	Serban
Test date:	Mon Mar 28 16:58:57 2005
PC:	McMillan
Disks:	Source: IDE, /dev/hdb, external label "7F", model MAXTOR 6L040J2, serial # 662201137770. Destination: SCSI, /dev/sda, external label "CC", model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run ***adjcmp***: adjcmp acm-03 mcmillan serban /dev/hdb 7F /dev/sda CC –

	assign
Log files location:	Test-archive/adjcmp/acm-03
Log file highlights:	**Cmpalog.txt:** -----Log records of the previous test case, followed by----- adjcmp @(#) adjcmp.c Linux Version 1.4 Created 03/25/05 at 19:16:24 compiled on Mar 25 2005 at 19:16:46 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: adjcmp acm-03 mcmillan serban /dev/hdb 7F /dev/sda CC -assign TEST acm-03 HOST mcmillan OPERATOR serban Comment: Compare manually assigned regions Src drive /dev/hdb dst drive /dev/sda Src fill 0x7F dst fill 0xCC Source Disk Drive /dev/hdb 04865/254/63 (max cyl/hd values) 04866/255/63 (number of cyl/hd) 78177792 total number of sectors IDE disk: Model (MAXTOR 6L040J2) serial # (662201137770) Source disk partition table Start LBA Length Start C/H/S End C/H/S boot Partition type P 000000063 006152832 0000/001/01 0382/254/63 0B Fat32 P 006185025 004096575 0385/000/01 0639/254/63 83 Linux X 010313730 000867510 0642/000/01 0695/254/63 05 extended S 000000063 000417627 0642/001/01 0667/254/63 06 Fat16 x 000449820 000417690 0670/000/01 0695/254/63 05 extended S 000000063 000417627 0670/001/01 0695/254/63 0B Fat32 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry P 000000000 000000000 0000/000/00 0000/000/00 00

	empty entry P primary partition (1-4) S secondary (sub) partition X primary extended partition (1-4) x secondary extended partition Source disk layout: 04866/255/63 78177792 total sectors on disk Start LBA End LBA Length Size: MB (binary) 0 B 0 62 63 0.03MB 0.03BMB 1 P 63 6152894 6152832 3150.25MB 3004.31BMB 2 U 6152895 6185024 32130 16.45MB 15.69BMB 3 P 6185025 10281599 4096575 2097.45MB 2000.28BMB 4 U 10281600 10313729 32130 16.45MB 15.69BMB 5 b 10313730 10313792 63 0.03MB 0.03BMB 6 P 10313793 10731419 417627 213.83MB 203.92BMB 7 U 10731420 10763549 32130 16.45MB 15.69BMB 8 b 10763550 10763612 63 0.03MB 0.03BMB 9 P 10763613 11181239 417627 213.83MB 203.92BMB 10 U 11181240 78177791 66996552 34302.23MB 32713.16BMB Destination Disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Destination disk partition table Start LBA Length Start C/H/S End C/H/S boot Partition type P 000000063 006152832 0000/001/01 0382/254/63 0B Fat32 P 006185025 004096575 0385/000/01 0639/254/63 83 Linux X 010313730 001317330 0642/000/01 0723/254/63 05 extended S 000000063 000417627 0642/001/01 0667/254/63 06 Fat16 x 000449820 000417690 0670/000/01 0695/254/63 05 extended

	S 000000063 000417627 0670/001/01 0695/254/63 0B Fat32 x 000899640 000417690 0698/000/01 0723/254/63 05 extended S 000000063 000417627 0698/001/01 0723/254/63 07 NTFS S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry P primary partition (1-4) S secondary (sub) partition X primary extended partition (1-4) x secondary extended partition Destination disk layout: 04462/255/63 71687370 total sectors on disk Start LBA End LBA Length Size: MB (binary) 0 B 0 62 63 0.03MB 0.03BMB 1 P 63 6152894 6152832 3150.25MB 3004.31BMB 2 U 6152895 6185024 32130 16.45MB 15.69BMB 3 P 6185025 10281599 4096575 2097.45MB 2000.28BMB 4 U 10281600 10313729 32130 16.45MB 15.69BMB 5 b 10313730 10313792 63 0.03MB 0.03BMB 6 P 10313793 10731419 417627 213.83MB 203.92BMB 7 U 10731420 10763549 32130 16.45MB 15.69BMB 8 b 10763550 10763612 63 0.03MB 0.03BMB 9 P 10763613 11181239 417627 213.83MB 203.92BMB 10 U 11181240 11213369 32130 16.45MB 15.69BMB 11 b 11213370 11213432 63 0.03MB 0.03BMB 12 P 11213433 11631059 417627 213.83MB 203.92BMB 13 U 11631060 71687369 60056310 30748.83MB 29324.37BMB Matching regions Start End Length Start End Length 0 B 0 62 63 => 0 B 0 62 63 1 P 63 6152894 6152832 => 1 P 63 6152894 6152832 2 U 6152895 6185024 32130 => 2 U 6152895

	6185024 32130 3 P 6185025 10281599 4096575 => 3 P 6185025 10281599 4096575 4 U 10281600 10313729 32130 => 4 U 10281600 10313729 32130 5 b 10313730 10313792 63 => 8 b 10763550 10763612 63 6 P 10313793 10731419 417627 => 9 P 10763613 11181239 417627 7 U 10731420 10763549 32130 => 10 U 11181240 11213369 32130 8 b 10763550 10763612 63 => 5 b 10313730 10313792 63 9 P 10763613 11181239 417627 => 6 P 10313793 10731419 417627 10 U 11181240 78177791 66996552 => 7 U 10731420 10763549 32130 Unmatched destination regions Start End Length 11b 11213370 11213432 63 12P 11213433 11631059 417627 13U 11631060 71687369 60056310 Chunk class codes: b/B Boot track, P partition, U unallocated ========== Compare region 0 of 10: src(0,63,B) dst (0,63,B) Src base 0 Dst base 0 Sectors compared: 63 Sectors match: 62 Sectors differ: 1 Bytes differ: 4 Diffs range: 0 ========== Compare region 1 of 10: src(63,6152832,P) dst (63,6152832,P) Src base 63 Dst base 63 Sectors compared: 6152832 Sectors match: 6152832 Sectors differ: 0 Bytes differ: 0 Diffs range: ========== Compare region 2 of 10: src(6152895,32130,U) dst

	(6152895,32130,U) Src base 6152895 Dst base 6152895 Sectors compared: 32130 Sectors match: 32126 Sectors differ: 4 Bytes differ: 26 Diffs range: 2, 24, 26, 16386 ========== Compare region 3 of 10: src(6185025,4096575,P) dst (6185025,4096575,P) Src base 6185025 Dst base 6185025 Sectors compared: 4096575 Sectors match: 4096575 Sectors differ: 0 Bytes differ: 0 Diffs range: ========== Compare region 4 of 10: src(10281600,32130,U) dst (10281600,32130,U) Src base 10281600 Dst base 10281600 Sectors compared: 32130 Sectors match: 503 Sectors differ: 31627 Bytes differ: 219650 Diffs range: 63, 504-32129 ========== Compare region 5 of 10: src(10313730,63,b) dst (10763550,63,b) Src base 10313730 Dst base 10763550 Sectors compared: 63 Sectors match: 0 Sectors differ: 63 Bytes differ: 442 Diffs range: 0-62 ========== Compare region 6 of 10: src(10313793,417627,P) dst (10763613,417627,P) Src base 10313793 Dst base 10763613 Sectors compared: 417627 Sectors match: 431 Sectors differ: 417196 Bytes differ: 9288360

	Diffs range: 0-7, 32, 205, 441-417626 ========== Compare region 7 of 10: src(10731420,32130,U) dst (11181240,32130,U) Src base 10731420 Dst base 11181240 Sectors compared: 32130 Sectors match: 0 Sectors differ: 32130 Bytes differ: 3480062 Diffs range: 0-32129 ========== Compare region 8 of 10: src(10763550,63,b) dst (10313730,63,b) Src base 10763550 Dst base 10313730 Sectors compared: 63 Sectors match: 0 Sectors differ: 63 Bytes differ: 374 Diffs range: 0-62 ========== Compare region 9 of 10: src(10763613,417627,P) dst (10313793,417627,P) Src base 10763613 Dst base 10313793 Sectors compared: 417627 Sectors match: 431 Sectors differ: 417196 Bytes differ: 9288360 Diffs range: 0-7, 32, 205, 441-417626 ========== Compare region 10 of 10: src(11181240,66996552,U) dst (10731420,32130,U) Src base 11181240 Dst base 10731420 Sectors compared: 32130 Sectors match: 0 Sectors differ: 32130 Bytes differ: 3507700 Diffs range: 0-32129 Source (66996552) has 66964422 more sectors than destination (32130) Examine unmatched regions of destination

	========== Examine: 11b 11213370-- 11213432 63 scanning 63 unmatched sectors: 11213370--11213433 Zero fill: 0 Src Byte fill (7F): 62 Dst Byte fill (CC): 0 Other fill (00): 0 Other no fill: 1 Zero fill range: Src fill range: 11213371-11213432 Dst fill range: Other fill range: Other not filled range: 11213370 ========== Examine: 12P 11213433-- 11631059 417627 scanning 417627 unmatched sectors: 11213433--11631060 Zero fill: 324 Src Byte fill (7F): 416430 Dst Byte fill (CC): 0 Other fill (FF): 240 Other no fill: 633 Zero fill range: 11394313-11394377, 11394380-11394428, 11394432-11394479, 11426443-11426507, 11426510- 11426558, 11426562-11426609 Src fill range: 11213434-11213464, 11213497-11222590, 11222599-11222705, 11222714-11255358, 11255367- 11255473, 11255482-11288126, 11288135-11288241, 11288250- 11320894, 11320903-11321009, 11321018-11353662, 11353671- 11353777, 11353786-11386430, 11386439-11386545, 11386554- 11390115, 11390148-11390155, 11390164-11394307, 11394745- 11419198, 11419207-11419313, 11419322-11422245, 11422278- 11422285. . . + 208231 more Dst fill range: Other fill range: 11222591-11222598, 11222706- 11222713, 11255359-11255366, 11255474-11255481, 11288127- 11288134, 11288242-11288249, 11320895-11320902, 11321010- 11321017,

	11353663-11353670, 11353778-11353785, 11386431-11386438, 11386546-11386553, 11390141-11390147, 11390156-11390163, 11394430, 11419199-11419206, 11419314-11419321, 11422271-11422277, 11422286-11422293, 11426560. . . + 96 more Other not filled range: 11213433, 11213465-11213496, 11390116-11390140, 11394308-11394312, 11394378-11394379, 11394429, 11394431, 11394480-11394744, 11422246-11422270, 11426438-11426442, 11426508-11426509, 11426559, 11426561, 11426610-11426874, 11598929, 11631059 ========== Examine: 13U 11631060-- 71687369 60056310 scanning 60056310 unmatched sectors: 11631060--71687370 Zero fill: 807699 Src Byte fill (7F): 59100886 Dst Byte fill (CC): 1 Other fill (FF): 2063 Other no fill: 145661 Zero fill range: 12369476-12369478, 12787811-12787834, 12787836-12791048, 12791050-12794262, 12794264, 12996656-12996679, 12996681-12998286, 12998288-12999894, 13188791-13188793, 13205501-13205524, 13205526-13208738, 13208740-13211953, 20482946-20482969, 20482971-20492962, 20492964-20502971, 24579453, 24579549, 24579553, 24579555-24580063, 24580065. . . + 771017 more Src fill range: 11631060-11648574, 11648583-11648689, 11648698-11681342, 11681351-11681457, 11681466-11714110, 11714119-11714225, 11714234-11746878, 11746887-11746993, 11747002-11779646, 11779655-11779761, 11779770-11812414, 11812423-11812529, 11812538-11845182, 11845191-11845297, 11845306-11877950, 11877959-11878065, 11878074-

	11910718, 11910727-11910833, 11910842-11943486, 11943495-11943601. . . + 58788496 more Dst fill range: 71687369 Other fill range: 11648575-11648582, 11648690-11648697, 11681343-11681350, 11681458-11681465, 11714111-11714118, 11714226-11714233, 11746879-11746886, 11746994-11747001, 11779647-11779654, 11779762-11779769, 11812415-11812422, 11812530-11812537, 11845183-11845190, 11845298-11845305, 11877951-11877958, 11878066-11878073, 11910719-11910726, 11910834-11910841, 11943487-11943494, 11943602-11943609. . . + 1903 more Other not filled range: 12289724, 12369475, 12787740, 12787803-12787810, 12787835, 12791049, 12996585, 12996648-12996655, 12996680, 12998287, 13188790, 13205430, 13205493-13205500, 13205525, 13208739, 20482875, 20482938-20482945, 20482970, 20492963, 24579452. . . + 145613 more Summary Boot tracks 3 189 diffs 127 Partitions 4 11084661 diffs 834392 Unallocated 4 128520 diffs 95891 Total src sectors 11213370 Partition excess 0 zero 0 non-zero 0 Disk excess 60474000 zero 808023 non-zero 59665977 Total dst sectors 71687370 run start Mon Mar 28 16:58:57 2005 run finish Mon Mar 28 17:39:23 2005 elapsed time 0:40:26 Normal exit
Expected results:	*Adjcmp* appends the log records to the existing log file “cmpalog.txt” created in the previous test case. It prompts the user for a comment. It logs the comment, the drives, the program execution, the partition tables of each drive, the location, size, type of each disk chunk. It prompts the user

	for chunk assignment, compares them and logs the correct results, then categorizes the sectors of the surplus destination chunks. It logs all other information required (compilation date, libraries, etc.)
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Acm-04	
Case summary:	Test whether *adjcmp* allows the user to specify an alternate log file name by using the –log_name option. Test how *adjcmp* automatically assigns surplus source chunks. Use for comparison the same partitions as before, but reverse the source and destination disks, so that the source disk has surplus chunks. Also, modify a few sectors in some or all partitions, so that they do not compare equal.
Tester name:	serban
Test date:	Tue Mar 29 08:51:14 2005
PC:	McMillan
Disks:	Source: SCSI, /dev/sda, external label “CC”, model ST336705LC, serial # 3DE03HL300008110CEHF. Destination: IDE, /dev/hdb, external label “7F”, model MAXTOR 6L040J2, serial # 662201137770.
Execute:	Run ***adjcmp***: adjcmp acm-04 mcmillan serban /dev/sda CC /dev/hdb 7F –log_name adjcmplog.txt
Log files location:	Test-archive/adjcmp/acm-04
Log file highlights:	**Adjcmplog.txt:** adjcmp @(#) adjcmp.c Linux Version 1.4 Created 03/25/05 at 19:16:24 compiled on Mar 25 2005 at 19:16:46 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: adjcmp acm-04 mcmillan serban /dev/sda CC /dev/hdb 7F -log_name adjcmplog.txt TEST acm-04 HOST mcmillan OPERATOR serban Comment: Compare partitions with a few differences, see how an excess chunk is handled.

	Src drive /dev/sda dst drive /dev/hdb Src fill 0xCC dst fill 0x7F Source Disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Source disk partition table Start LBA Length Start C/H/S End C/H/S boot Partition type P 000000063 006152832 0000/001/01 0382/254/63 0B Fat32 P 006185025 004096575 0385/000/01 0639/254/63 83 Linux X 010313730 001317330 0642/000/01 0723/254/63 05 extended S 000000063 000417627 0642/001/01 0667/254/63 06 Fat16 x 000449820 000417690 0670/000/01 0695/254/63 05 extended S 000000063 000417627 0670/001/01 0695/254/63 0B Fat32 x 000899640 000417690 0698/000/01 0723/254/63 05 extended S 000000063 000417627 0698/001/01 0723/254/63 07 NTFS S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry P primary partition (1-4) S secondary (sub) partition X primary extended partition (1-4) x secondary extended partition Source disk layout: 04462/255/63 71687370 total sectors on disk Start LBA End LBA Length Size: MB (binary) 0 B 0 62 63 0.03MB 0.03BMB 1 P 63 6152894 6152832 3150.25MB 3004.31BMB 2 U 6152895 6185024 32130 16.45MB 15.69BMB 3 P 6185025 10281599 4096575 2097.45MB 2000.28BMB 4 U 10281600 10313729 32130 16.45MB

	15.69BMB 5 b 10313730 10313792 63 0.03MB 0.03BMB 6 P 10313793 10731419 417627 213.83MB 203.92BMB 7 U 10731420 10763549 32130 16.45MB 15.69BMB 8 b 10763550 10763612 63 0.03MB 0.03BMB 9 P 10763613 11181239 417627 213.83MB 203.92BMB 10 U 11181240 11213369 32130 16.45MB 15.69BMB 11 b 11213370 11213432 63 0.03MB 0.03BMB 12 P 11213433 11631059 417627 213.83MB 203.92BMB 13 U 11631060 71687369 60056310 30748.83MB 29324.37BMB Destination Disk Drive /dev/hdb 04865/254/63 (max cyl/hd values) 04866/255/63 (number of cyl/hd) 78177792 total number of sectors IDE disk: Model (MAXTOR 6L040J2) serial # (662201137770) Destination disk partition table Start LBA Length Start C/H/S End C/H/S boot Partition type P 000000063 006152832 0000/001/01 0382/254/63 0B Fat32 P 006185025 004096575 0385/000/01 0639/254/63 83 Linux X 010313730 000867510 0642/000/01 0695/254/63 05 extended S 000000063 000417627 0642/001/01 0667/254/63 06 Fat16 x 000449820 000417690 0670/000/01 0695/254/63 05 extended S 000000063 000417627 0670/001/01 0695/254/63 0B Fat32 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry P primary partition (1-4) S secondary (sub) partition X primary extended partition (1-4) x secondary extended partition Destination disk layout: 04866/255/63 78177792 total

	sectors on disk Start LBA End LBA Length Size: MB (binary) 0 B 0 62 63 0.03MB 0.03BMB 1 P 63 6152894 6152832 3150.25MB 3004.31BMB 2 U 6152895 6185024 32130 16.45MB 15.69BMB 3 P 6185025 10281599 4096575 2097.45MB 2000.28BMB 4 U 10281600 10313729 32130 16.45MB 15.69BMB 5 b 10313730 10313792 63 0.03MB 0.03BMB 6 P 10313793 10731419 417627 213.83MB 203.92BMB 7 U 10731420 10763549 32130 16.45MB 15.69BMB 8 b 10763550 10763612 63 0.03MB 0.03BMB 9 P 10763613 11181239 417627 213.83MB 203.92BMB 10 U 11181240 78177791 66996552 34302.23MB 32713.16BMB Matching regions Start End Length Start End Length 0 B 0 62 63 => 0 B 0 62 63 1 P 63 6152894 6152832 => 1 P 63 6152894 6152832 2 U 6152895 6185024 32130 => 2 U 6152895 6185024 32130 3 P 6185025 10281599 4096575 => 3 P 6185025 10281599 4096575 4 U 10281600 10313729 32130 => 4 U 10281600 10313729 32130 5 b 10313730 10313792 63 => 5 b 10313730 10313792 63 6 P 10313793 10731419 417627 => 6 P 10313793 10731419 417627 7 U 10731420 10763549 32130 => 7 U 10731420 10763549 32130 8 b 10763550 10763612 63 => 8 b 10763550 10763612 63 9 P 10763613 11181239 417627 => 9 P 10763613 11181239 417627 10 U 11181240 11213369 32130 => 10 U 11181240 78177791 66996552 11 b 11213370 11213432 63 => 0 B 0 62 63 12 P 11213433 11631059 417627 => 0 B 0 62

	63 13 U 11631060 71687369 60056310 => 0 B 0 62 63 Unmatched destination regions Start End Length Chunk class codes: b/B Boot track, P partition, U unallocated ========== Compare region 0 of 10: src(0,63,B) dst (0,63,B) Src base 0 Dst base 0 Sectors compared: 63 Sectors match: 62 Sectors differ: 1 Bytes differ: 4 Diffs range: 0 ========== Compare region 1 of 10: src(63,6152832,P) dst (63,6152832,P) Src base 63 Dst base 63 Sectors compared: 6152832 Sectors match: 6152831 Sectors differ: 1 Bytes differ: 1 Diffs range: 9937 ========== Compare region 2 of 10: src(6152895,32130,U) dst (6152895,32130,U) Src base 6152895 Dst base 6152895 Sectors compared: 32130 Sectors match: 32126 Sectors differ: 4 Bytes differ: 26 Diffs range: 2, 24, 26, 16386 ========== Compare region 3 of 10: src(6185025,4096575,P) dst (6185025,4096575,P) Src base 6185025 Dst base 6185025 Sectors compared: 4096575 Sectors match: 4096574 Sectors differ: 1 Bytes differ: 486 Diffs range: 1975

	========== Compare region 4 of 10: src(10281600,32130,U) dst (10281600,32130,U) Src base 10281600 Dst base 10281600 Sectors compared: 32130 Sectors match: 503 Sectors differ: 31627 Bytes differ: 219650 Diffs range: 63, 504-32129 ========== Compare region 5 of 10: src(10313730,63,b) dst (10313730,63,b) Src base 10313730 Dst base 10313730 Sectors compared: 63 Sectors match: 1 Sectors differ: 62 Bytes differ: 372 Diffs range: 1-62 ========== Compare region 6 of 10: src(10313793,417627,P) dst (10313793,417627,P) Src base 10313793 Dst base 10313793 Sectors compared: 417627 Sectors match: 417626 Sectors differ: 1 Bytes differ: 511 Diffs range: 1207 ========== Compare region 7 of 10: src(10731420,32130,U) dst (10731420,32130,U) Src base 10731420 Dst base 10731420 Sectors compared: 32130 Sectors match: 6460 Sectors differ: 25670 Bytes differ: 159584 Diffs range: 1-63, 69, 6524-32129 ========== Compare region 8 of 10: src(10763550,63,b) dst (10763550,63,b) Src base 10763550 Dst base 10763550 Sectors compared: 63

	Sectors match: 0 Sectors differ: 63 Bytes differ: 414 Diffs range: 0-62 ========== Compare region 9 of 10: src(10763613,417627,P) dst (10763613,417627,P) Src base 10763613 Dst base 10763613 Sectors compared: 417627 Sectors match: 417626 Sectors differ: 1 Bytes differ: 1 Diffs range: 16387 ========== Compare region 10 of 10: src(11181240,32130,U) dst (11181240,66996552,U) Src base 11181240 Dst base 11181240 Sectors compared: 32130 Sectors match: 32095 Sectors differ: 35 Bytes differ: 17397 Diffs range: 0, 63, 79, 95-126 Source (32130) has 66964422 fewer sectors than destination (66996552) scanning 66964422 unmatched sectors: 11213370--78177792 Zero fill: 787837 Src Byte fill (CC): 0 Dst Byte fill (7F): 66028348 Other fill (FF): 2287 Other no fill: 145950 Zero fill range: 11297923-11297987, 11297990-11298038, 11298042-11298089, 12369476-12369478, 12787811-12787834, 12787836-12791048, 12791050-12794262, 12794264, 12996656-12996679, 12996681-12998286, 12998288-12999894, 13188791-13188793, 13205501-13205524, 13205526-13208738, 13208740-13211953, 24579453, 24579549, 24579553, 24579555-24580063, 24580065. . . + 771017 more Src fill range: Dst fill range: 11213370-11222590, 11222599-11222705,

	11222714-11255358, 11255367-11255473, 11255482-11288126, 11288135-11288241, 11288250-11293725, 11293758-11293765, 11293774-11297917, 11298355-11320894, 11320903-11321009, 11321018-11353662, 11353671-11353777, 11353786-11386430, 11386439-11386545, 11386554-11419198, 11419207-11419313, 11419322-11451966, 11451975-11452081, 11452090-11484734. . . + 65757588 more Other fill range: 11222591-11222598, 11222706-11222713, 11255359-11255366, 11255474-11255481, 11288127-11288134, 11288242-11288249, 11293751-11293757, 11293766-11293773, 11298040, 11320895-11320902, 11321010-11321017, 11353663-11353670, 11353778-11353785, 11386431-11386438, 11386546-11386553, 11419199-11419206, 11419314-11419321, 11451967-11451974, 11452082-11452089, 11484735-11484742. . . + 2135 more Other not filled range: 11293726-11293750, 11297918-11297922, 11297988-11297989, 11298039, 11298041, 11298090-11298354, 11502539, 12289724, 12369475, 12787740, 12787803-12787810, 12787835, 12791049, 12996585, 12996648-12996655, 12996680, 12998287, 13188790, 13205430, 13205493-13205500. . . + 145616 more Summary Boot tracks 3 189 diffs 126 Partitions 4 11084661 diffs 4 Unallocated 4 128520 diffs 57336 Total src sectors 11213370 Partition excess 0 zero 0 non-zero 0 Disk excess 66964422 zero 787837 non-zero 66176585 Total dst sectors 78177792

	run start Tue Mar 29 08:51:14 2005 run finish Tue Mar 29 09:39:10 2005 elapsed time 0:47:56 Normal exit
Expected results:	*Adjcmp* creates a log file with the alternate name "adjcmplog.txt". It prompts the user for a comment. It logs the comment, the drives, the program execution, the partition tables of each drive, the location, size, type of each disk chunk. It automatically assigns the source chunks to the destination chunks in a natural way, compares them and logs the correct results. It logs all other information required (compilation date, libraries, etc.) The documentation does not specify how the surplus source chunks should be assigned, if they would at all.
Actual results:	No anomalies detected. The surplus source chunks are all assigned to the destination chunk 0, which happens to be the boot track of the first partition.
Analysis:	Expected results achieved.

Case Acm-05	
Case summary:	Test how the user can assign source chunks of type U (unallocated) when there are no destination chunks of that type. Also, test whether *adjcmp* correctly (i.e., according to the specifications) compares large primary and logical partitions in both cases src size < dst size and src size > dst size.
Tester name:	serban
Test date:	Wed Mar 30 10:24:15 2005
PC:	McMillan
Disks:	Source: IDE, /dev/hdb, external label "7F", model MAXTOR 6L040J2, serial # 662201137770. Destination: SCSI, /dev/sda, external label "CC", model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run ***adjcmp***: adjcmp acm-05 mcmillan serban /dev/hdb 7F /dev/sda CC –assign –new_log When prompted, assign unallocated source chunks to destination chunk 0. Assign each source P chunk to the destination chunk of the same type (i.e., primary FAT32 to primary FAT32, etc.)
Log files location:	Test-archive/adjcmp/acm-05

Log file highlights:	**Cmpalog.txt:** adjcmp @(#) adjcmp.c Linux Version 1.4 Created 03/25/05 at 19:16:24 compiled on Mar 25 2005 at 19:16:46 using gcc Version 3.3.3 20040412 (Red Hat Linux 3.3.3-7) @(#) zbios.c Linux Version 1.5 Created 03/21/05 at 09:09:12 support lib compiled Mar 25 2005 at 19:16:46 @(#) zbios.h Linux Version 1.1 Created 02/10/05 at 10:53:24 cmd: adjcmp acm-05 mcmillan serban /dev/hdb 7F /dev/sda CC -assign -new_log TEST acm-05 HOST mcmillan OPERATOR serban Comment: Assigning U to null Src drive /dev/hdb dst drive /dev/sda Src fill 0x7F dst fill 0xCC Source Disk Drive /dev/hdb 04865/254/63 (max cyl/hd values) 04866/255/63 (number of cyl/hd) 78177792 total number of sectors IDE disk: Model (MAXTOR 6L040J2) serial # (662201137770) Source disk partition table Start LBA Length Start C/H/S End C/H/S boot Partition type P 000000063 020482812 0000/001/01 1023/254/63 0C Fat32X P 020515005 018442620 1023/000/01 1023/254/63 83 Linux X 038989755 020531070 1023/000/01 1023/254/63 0F extended S 000000063 002056257 1023/001/01 1023/254/63 06 Fat16 x 002088450 018442620 1023/000/01 1023/254/63 05 extended S 000000063 018442557 1023/001/01 1023/254/63 0B Fat32 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry P primary partition (1-4) S secondary (sub) partition X primary extended partition (1-4) x secondary extended partition

	Source disk layout: 04866/255/63 78177792 total sectors on disk Start LBA End LBA Length Size: MB (binary) 0 B 0 62 63 0.03MB 0.03BMB 1 P 63 20482874 20482812 10487.20MB 10001.37BMB 2 U 20482875 20515004 32130 16.45MB 15.69BMB 3 P 20515005 38957624 18442620 9442.62MB 9005.19BMB 4 U 38957625 38989754 32130 16.45MB 15.69BMB 5 b 38989755 38989817 63 0.03MB 0.03BMB 6 P 38989818 41046074 2056257 1052.80MB 1004.03BMB 7 U 41046075 41078204 32130 16.45MB 15.69BMB 8 b 41078205 41078267 63 0.03MB 0.03BMB 9 P 41078268 59520824 18442557 9442.59MB 9005.15BMB 10 U 59520825 78177791 18656967 9552.37MB 9109.85BMB Destination Disk Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) Destination disk partition table Start LBA Length Start C/H/S End C/H/S boot Partition type P 000000063 018442557 0000/001/01 1023/254/63 0C Fat32X P 018442620 020482875 1023/000/01 1023/254/63 83 Linux X 038925495 020482875 1023/000/01 1023/254/63 0F extended S 000000063 004096512 1023/001/01 1023/254/63 06 Fat16 x 004096575 016386300 1023/000/01 1023/254/63 05 extended S 000000063 016386237 1023/001/01 1023/254/63 0B Fat32 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry

	P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry P primary partition (1-4) S secondary (sub) partition X primary extended partition (1-4) x secondary extended partition Destination disk layout: 04462/255/63 71687370 total sectors on disk Start LBA End LBA Length Size: MB (binary) 0 B 0 62 63 0.03MB 0.03BMB 1 P 63 18442619 18442557 9442.59MB 9005.15BMB 2 P 18442620 38925494 20482875 10487.23MB 10001.40BMB 3 b 38925495 38925557 63 0.03MB 0.03BMB 4 P 38925558 43022069 4096512 2097.41MB 2000.25BMB 5 b 43022070 43022132 63 0.03MB 0.03BMB 6 P 43022133 59408369 16386237 8389.75MB 8001.09BMB 7 U 59408370 71687369 12279000 6286.85MB 5995.61BMB Matching regions Start End Length Start End Length 0 B 0 62 63 => 0 B 0 62 63 1 P 63 20482874 20482812 => 1 P 63 18442619 18442557 2 U 20482875 20515004 32130 => 0 B 0 62 63 3 P 20515005 38957624 18442620 => 2 P 18442620 38925494 20482875 4 U 38957625 38989754 32130 => 0 B 0 62 63 5 b 38989755 38989817 63 => 3 b 38925495 38925557 63 6 P 38989818 41046074 2056257 => 4 P 38925558 43022069 4096512 7 U 41046075 41078204 32130 => 0 B 0 62 63 8 b 41078205 41078267 63 => 5 b 43022070 43022132 63 9 P 41078268 59520824 18442557 => 6 P 43022133 59408369 16386237 10 U 59520825 78177791 18656967 => 7 U 59408370 71687369 12279000 Unmatched destination regions

	Start End Length Chunk class codes: b/B Boot track, P partition, U unallocated ========== Compare region 0 of 10: src(0,63,B) dst (0,63,B) Src base 0 Dst base 0 Sectors compared: 63 Sectors match: 62 Sectors differ: 1 Bytes differ: 15 Diffs range: 0 ========== Compare region 1 of 10: src(63,20482812,P) dst (63,18442557,P) Src base 63 Dst base 63 Sectors compared: 18442557 Sectors match: 18442556 Sectors differ: 1 Bytes differ: 16 Diffs range: 20018 Source (20482812) has 2040255 more sectors than destination (18442557) ========== Compare region 2 of 10: src(20482875,32130,U) dst (0,63,B) Src base 20482875 Dst base 0 Sectors compared: 63 Sectors match: 0 Sectors differ: 63 Bytes differ: 32177 Diffs range: 0-62 Source (32130) has 32067 more sectors than destination (63) ========== Compare region 3 of 10: src(20515005,18442620,P) dst (18442620,20482875,P) Src base 20515005 Dst base 18442620 Sectors compared: 18442620 Sectors match: 18442620 Sectors differ: 0 Bytes differ: 0 Diffs range:

	Source (18442620) has 2040255 fewer sectors than destination (20482875) scanning 2040255 unmatched sectors: 36885240--38925495 Zero fill: 128110 Src Byte fill (7F): 1889617 Dst Byte fill (CC): 0 Other fill (FF): 250 Other no fill: 22278 Zero fill range: 36891007, 36891087, 36891089, 36891092-36891603, 36900221, 36900317, 36900320-36900831, 36907391, 36907471, 36907473, 36907476-36907987, 36916605, 36916701, 36916704-36917215, 36923775, 36923855, 36923857, 36923860-36924371, 36932989, 36933085. . . + 125535 more Src fill range: 36885240-36891005, 36891604-36900219, 36900832-36907389, 36907988-36916603, 36917216-36923773, 36924372-36932987, 36933600-36940157, 36940756-36949371, 36949984-36956541, 36957140-36965755, 36966368-36972925, 36973524-36982139, 36982752-36989309, 36989908-36998523, 36999136-37005693, 37006292-37014907, 37015520-37022077, 37022676-37031291, 37031904-37038461, 37039060-37047675. . . + 1738669 more Dst fill range: Other fill range: 36891091, 36900319, 36907475, 36916703, 36923859, 36933087, 36940243, 36949471, 36956627, 36965855, 36973011, 36982239, 36989395, 36998623, 37005779, 37015007, 37022163, 37031391, 37038547, 37047775. . . + 230 more Other not filled range: 36891006, 36891008-36891086, 36891088, 36891090, 36900220, 36900222-36900316, 36900318, 36907390, 36907392-36907470, 36907472, 36907474, 36916604, 36916606-36916700, 36916702, 36923774, 36923776-36923854, 36923856, 36923858, 36932988, 36932990-36933084. . . +

	21742 more ========== Compare region 4 of 10: src(38957625,32130,U) dst (0,63,B) Src base 38957625 Dst base 0 Sectors compared: 63 Sectors match: 0 Sectors differ: 63 Bytes differ: 31112 Diffs range: 0-62 Source (32130) has 32067 more sectors than destination (63) ========== Compare region 5 of 10: src(38989755,63,b) dst (38925495,63,b) Src base 38989755 Dst base 38925495 Sectors compared: 63 Sectors match: 0 Sectors differ: 63 Bytes differ: 320 Diffs range: 0-62 ========== Compare region 6 of 10: src(38989818,2056257,P) dst (38925558,4096512,P) Src base 38989818 Dst base 38925558 Sectors compared: 2056257 Sectors match: 2056257 Sectors differ: 0 Bytes differ: 0 Diffs range: Source (2056257) has 2040255 fewer sectors than destination (4096512) scanning 2040255 unmatched sectors: 40981815--43022070 Zero fill: 63736 Src Byte fill (7F): 1964367 Dst Byte fill (CC): 0 Other fill (FF): 124 Other no fill: 12028 Zero fill range: 40996221, 40996317, 40996320-40996831, 41012605, 41012701, 41012704-41013215, 41028989, 41029085, 41029088-41029599, 41045373, 41045469, 41045472-41045983,

	41061757, 41061853, 41061856-41062367, 41078141, 41078237, 41078240-41078751, 41094525, 41094621. . . + 60650 more Src fill range: 40981815-40996219, 40996832-41012603, 41013216-41028987, 41029600-41045371, 41045984-41061755, 41062368-41078139, 41078752-41094523, 41095136-41110907, 41111520-41127291, 41127904-41143675, 41144288-41160059, 41160672-41176443, 41177056-41192827, 41193440-41209211, 41209824-41225595, 41226208-41241979, 41242592-41258363, 41258976-41274747, 41275360-41291131, 41291744-41307515. . . + 1650294 more Dst fill range: Other fill range: 40996319, 41012703, 41029087, 41045471, 41061855, 41078239, 41094623, 41111007, 41127391, 41143775, 41160159, 41176543, 41192927, 41209311, 41225695, 41242079, 41258463, 41274847, 41291231, 41307615. . . + 104 more Other not filled range: 40996220, 40996222-40996316, 40996318, 41012604, 41012606-41012700, 41012702, 41028988, 41028990-41029084, 41029086, 41045372, 41045374-41045468, 41045470, 41061756, 41061758-41061852, 41061854, 41078140, 41078142-41078236, 41078238, 41094524, 41094526-41094620. . . + 11350 more ========== Compare region 7 of 10: src(41046075,32130,U) dst (0,63,B) Src base 41046075 Dst base 0 Sectors compared: 63 Sectors match: 0 Sectors differ: 63 Bytes differ: 31025 Diffs range: 0-62 Source (32130) has 32067 more sectors than destination (63)

	========== Compare region 8 of 10: src(41078205,63,b) dst (43022070,63,b) Src base 41078205 Dst base 43022070 Sectors compared: 63 Sectors match: 0 Sectors differ: 63 Bytes differ: 31688 Diffs range: 0-62 ========== Compare region 9 of 10: src(41078268,18442557,P) dst (43022133,16386237,P) Src base 41078268 Dst base 43022133 Sectors compared: 16386237 Sectors match: 16386237 Sectors differ: 0 Bytes differ: 0 Diffs range: Source (18442557) has 2056320 more sectors than destination (16386237) ========== Compare region 10 of 10: src(59520825,18656967,U) dst (59408370,12279000,U) Src base 59520825 Dst base 59408370 Sectors compared: 12279000 Sectors match: 0 Sectors differ: 12279000 Bytes differ: 97038336 Diffs range: 0-12278999 Source (18656967) has 6377967 more sectors than destination (12279000) Summary Boot tracks 6 378 diffs 316 Partitions 4 55327671 diffs 1 Unallocated 1 12279000 diffs 12279000 Total src sectors 67607049 Partition excess 4080510 zero 191846 non-zero 3888664 Disk excess 0 zero 0 non-zero 0 Total dst sectors 71687559 run start Wed Mar 30 10:24:15 2005

	run finish Wed Mar 30 11:30:40 2005 elapsed time 1:6:25 Normal exit
Expected results:	*Adjcmp* creates a new log file with the default name "cmpalog.txt". It prompts the user for a comment. It logs the comment, the drives, the program execution, the partition tables of each drive, the location, size, type of each disk chunk. It prompts the user for chunk assignment. It compares the chunks according to specification (observe whether it categorizes surplus destination sectors) and logs the results. It logs all other information required (compilation date, libraries, etc.)
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Acm-06	
Case summary:	Test whether *adjcmp* displays its usage mode when invoked with the –h option.
Tester name:	serban
Test date:	Wed Mar 30 16:11:00 2005
PC:	McMillan
Disks:	None.
Execute:	Run ***adjcmp*** with the –h option alone on the command line or accompanied by other arguments and capture its standard output into a file: adjcmp -h > outputlog.txt adjcmp acm-06 mcmillan serban /dev/hdb 7F /dev/sda CC -h >> outputlog.txt
Log files location:	Test-archive/adjcmp/acm-06
Log file highlights:	**outputlog.txt:** adjcmp Version 3.1 compiled at 19:16:46 on Mar 25 2005 Src drive /dev/hdb dst drive /dev/sda Src fill 0x7F dst fill 0xCC Usage: adjcmp test-case host operator src-drive src-fill dst-drive dst-fill [-options] -comment " ... " Descriptive comment -layout Print disk layout only (no compare) -new_log Start a new log file (default is append to old log file) -log_name <name> Use different log file (default is cmpalog.txt) -assign Assign corresponding regions between src

	and dst via dialog -h Print this option list
Expected results:	*Adjcmp* displays its usage mode in each case.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

3.2.11 *Sechash* Test Results Summary

Case Shs-01	
Case summary:	Test whether ***sechash***: -creates a new log file with the default name reflecting the –before option; -logs a one-word comment entered on the command line in the –comment option; -logs the disk drive; -logs the program execution; -logs the block of sectors for which it will compute the hash, and the type of hash; -computes and logs the SHA-1 hash of the entire disk when –first, –last, and -hash options are omitted.
Tester name:	serban
Test date:	Sat Apr 16 10:47:40 EDT 2005
PC:	McMillan
Disks:	Target: SCSI, /dev/sda, external label “CC”, model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run sechash.csh script: sechash.csh shs-01 mcmillan serban /dev/sda CC -before -comment HashEntireDisk
Log files location:	Test-archive/sechash/shs-01/
Log file highlights:	**hashbsec.txt:** @(#) sechash.csh Linux Version 1.8 Created 03/18/05 at 11:11:24 CMD: /root/Forensic/bin/sechash.csh shs-01 mcmillan serban /dev/sda CC -before -comment HashEntireDisk Case: shs-01 Host: mcmillan User: serban Device: /dev/sda Label: CC Comment: HashEntireDisk Hash: sha1sum Linux mcmillan 2.4.20-8 #1 Thu Mar 13 17:54:28 EST 2003 i686 i686 i386 GNU/Linux shasum (coreutils) 4.5.3 SCSI device sda: 71687370 512-byte hdwr sectors (36704 MB) Hash 71687370 sectors from 0 through 71687369 (dd bs=512 if=/dev/sda skip=0 count=71687370 | sha1sum

	| tr a-z A-Z >> hashbsec.txt) >>& hashbsec.txt 71687370+0 records in 71687370+0 records out EB2166A130781E350C6D71001E62DC520D68CAA2 - run start Sat Apr 16 10:47:40 EDT 2005 run finish Sat Apr 16 11:12:51 EDT 2005
Expected results:	***Sechash*** creates a new log file "hashbsec.txt". It logs the comment, the drive, the program execution, the block of sectors for which it will compute the hash, the type of hash computed, the actual number of sectors in the block, and the hash value. It logs all other information required (compilation date, libraries, etc.)
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Shs-02	
Case summary:	Test whether ***sechash***: -appends the log records to an existing log file with the default name reflecting the –before option; -logs a multi-word comment entered on the command line in the –comment option; -logs the disk drive; -logs the program execution; -logs the block of sectors for which it will compute the hash, and the type of hash; -computes and logs the MD5 hash (as specified by the –hash option) of the entire disk when the –first and –last option explicitly specify the first and last sectors of the disk.
Tester name:	serban
Test date:	Sat Apr 16 11:29:35 EDT 2005
PC:	McMillan
Disks:	Target: SCSI, /dev/sda, external label "CC", model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run sechash.csh script: sechash.csh shs-02 mcmillan serban /dev/sda CC -before -first 0 -last 71687369 -comment "Hash Entire Disk" -hash md5sum
Log files location:	Test-archive/sechash/shs-02/
Log file highlights:	**hashbsec.txt:**

	@(#) sechash.csh Linux Version 1.8 Created 03/18/05 at 11:11:24 CMD: /root/Forensic/bin/sechash.csh shs-02 mcmillan serban /dev/sda CC -before -first 0 -last 71687369 -comment Hash Entire Disk -hash md5sum Case: shs-02 Host: mcmillan User: serban Device: /dev/sda Label: CC Comment: Hash Entire Disk Hash: md5sum Linux mcmillan 2.4.20-8 #1 Thu Mar 13 17:54:28 EST 2003 i686 i686 i386 GNU/Linux md5sum (coreutils) 4.5.3 SCSI device sda: 71687370 512-byte hdwr sectors (36704 MB) Hash 71687370 sectors from 0 through 71687369 (dd bs=512 if=/dev/sda skip=0 count=71687370 | md5sum | tr a-z A-Z >> hashbsec.txt) >>& hashbsec.txt 71687370+0 records in 71687370+0 records out 9CF850670C1A43AF810093F7758C0277 - run start Sat Apr 16 11:29:35 EDT 2005 run finish Sat Apr 16 11:48:32 EDT 2005
Expected results:	***Sechash*** creates a new log file "hashbsec.txt". It logs the comment, the drive, the program execution, the block of sectors for which it will compute the hash, the type of hash computed, the actual number of sectors in the block, and the hash value. It logs all other information required (compilation date, libraries, etc.)
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Shs-03	
Case summary:	Test whether ***sechash***: -creates a log file with the default name reflecting the –after option; -prompts the user to enter a comment; -logs the disk drive; -logs the program execution; -logs the block of sectors for which it will compute the

	hash, and the type of hash; -computes and logs the SHA-1 hash (explicitly specified by the –hash option, even though it is the default type of hash) of the entire disk when the –first and –last option explicitly specify the first and last sectors of the disk, and the last byte of the disk pattern of case shs-01 was modified by using *diskchg*.
Tester name:	serban
Test date:	Sat Apr 16 11:52:14 EDT 2005
PC:	McMillan
Disks:	Target: SCSI, /dev/sda, external label “CC”, model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run sechash.csh script: sechash.csh shs-03 mcmillan serban /dev/sda CC –new_log -after -first 0 -last 71687369 -hash sha1sum
Log files location:	Test-archive/sechash/shs-03/
Log file highlights:	**hashasec.txt:** @(#) sechash.csh Linux Version 1.8 Created 03/18/05 at 11:11:24 CMD: /root/Forensic/bin/sechash.csh shs-03 mcmillan serban /dev/sda CC -after -first 0 -last 71687369 -hash sha1sum Case: shs-03 Host: mcmillan User: serban Device: /dev/sda Label: CC Comment: Compute SHA-1 for entire disk after modification Hash: sha1sum Linux mcmillan 2.4.20-8 #1 Thu Mar 13 17:54:28 EST 2003 i686 i686 i386 GNU/Linux shasum (coreutils) 4.5.3 SCSI device sda: 71687370 512-byte hdwr sectors (36704 MB) Hash 71687370 sectors from 0 through 71687369 (dd bs=512 if=/dev/sda skip=0 count=71687370 | sha1sum | tr a-z A-Z >> hashasec.txt) >>& hashasec.txt 71687370+0 records in 71687370+0 records out 5E88403E4222EAF631E3AB97D08A0FFFFB74FE49 - run start Sat Apr 16 11:52:14 EDT 2005 run finish Sat Apr 16 12:17:17 EDT 2005
Expected results:	***Sechash*** creates a new log file “hashasec.txt”. It prompts

	the user for a comment. It logs the comment, the drive, the program execution, the block of sectors for which it will compute the hash, the type of hash computed, the actual number of sectors in the block, and the hash value. It logs all other information required (compilation date, libraries, etc.)
Actual results:	No anomalies detected. The correctness of the SHA-1 hash computed for the modified pattern has been assessed by comparing the hash to the hash computed in the test case dsh-04 of ***diskhash***.
Analysis:	Expected results achieved.

Case Shs-04	
Case summary:	Test whether ***sechash***: -creates a log file with the default name reflecting the –after option; -prompts the user to enter a comment; -logs the disk drive; -logs the program execution; -logs the block of sectors for which it will compute the hash, and the type of hash; -computes and logs the MD5 hash (explicitly specified by the –hash option) of the entire disk when the –first and –last option explicitly specify the first and last sectors of the disk, and the last byte of the disk pattern of case shs-01 or shs-02 (the pattern was the same in those cases) was modified by using *diskchg*.
Tester name:	serban
Test date:	Sat Apr 16 12:34:38 EDT 2005
PC:	McMillan
Disks:	Target: SCSI, /dev/sda, external label “CC”, model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run sechash.csh script: sechash.csh shs-04 mcmillan serban /dev/sda CC –new_log -after -first 0 -last 71687369 -hash md5sum
Log files location:	Test-archive/sechash/shs-04/
Log file highlights:	**hashasec.txt:** @(#) sechash.csh Linux Version 1.8 Created 03/18/05 at 11:11:24 CMD: /root/Forensic/bin/sechash.csh shs-04 mcmillan serban /dev/sda CC -new_log -after -first 0 -last 71687369 -hash md5sum Case: shs-04

	Host: mcmillan User: serban Device: /dev/sda Label: CC Comment: Hash entire disk, with modified last byte, MD5 Hash: md5sum Linux mcmillan 2.4.20-8 #1 Thu Mar 13 17:54:28 EST 2003 i686 i686 i386 GNU/Linux md5sum (coreutils) 4.5.3 SCSI device sda: 71687370 512-byte hdwr sectors (36704 MB) Hash 71687370 sectors from 0 through 71687369 (dd bs=512 if=/dev/sda skip=0 count=71687370 | md5sum | tr a-z A-Z >> hashasec.txt) >>& hashasec.txt 71687370+0 records in 71687370+0 records out 4E39B4D4E813A7C6A1E90637B0A281FD - run start Sat Apr 16 12:34:38 EDT 2005 run finish Sat Apr 16 12:52:11 EDT 2005
Expected results:	***Sechash*** creates a new log file "hashasec.txt". It prompts the user for a comment. It logs the comment, the drive, the program execution, the block of sectors for which it will compute the hash, the type of hash computed, the actual number of sectors in the block, and the hash value. It logs all other information required (compilation date, libraries, etc.)
Actual results:	No anomalies detected. The correctness of the MD5 hash computed for the modified pattern has been assessed by comparing the hash to the hash computed in the test case dsh-05 of ***diskhash***.
Analysis:	Expected results achieved.

Case Shs-05	
Case summary:	Test whether ***sechash***: -creates a log file with an alternate name by using the –log_name option; -prompts the user to enter a comment; -logs the disk drive; -logs the program execution; -logs the block of sectors for which it will compute the hash, and the type of hash; -computes and logs the SHA-1 hash (explicitly specified by the –hash option) of the first sector of the disk by using

	the –first and –last options.
Tester name:	Serban
Test date:	Sat Apr 16 13:09:49 EDT 2005
PC:	McMillan
Disks:	Target: SCSI, /dev/sda, external label “CC”, model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run the script *cal-drive-count.csh* to write a pattern on sector 0 whose SHA-1 hash is known: cal-drive-count.csh sda 1 > output.txt Run the script sechash.csh: sechash.csh shs-05 mcmillan serban /dev/sda CC –log_name sechashlog.txt -first 0 -last 0 -hash sha1sum
Log files location:	Test-archive/sechash/shs-05/
Log file highlights:	**Output.txt**: [root@mcmillan shs-05]# cal-drive-count.csh sda 1 This script will overwrite the drive on /dev/sda Everything on the drive /dev/sda WILL BE LOST Do you want to continue? [yes|no] yes 1+0 records in 1+0 records out 1+0 records in 1+0 records out MD5 should be: 9BA49A496A8BD64D9A5BD3AFE6CC1C9D - 1+0 records in 1+0 records out SHA1 should be: F6055F9D115056CB31E68714B75D5D41EA264B9A - **sechashlog.txt:** @(#) sechash.csh Linux Version 1.8 Created 03/18/05 at 11:11:24 CMD: /root/Forensic/bin/sechash.csh shs-05 mcmillan serban /dev/sda CC -log_name sechashlog.txt -first 0 -last 0 -hash sha1sum Case: shs-05 Host: mcmillan User: serban Device: /dev/sda Label: CC Comment: Compute SHA-1 for sector 0, alternate log file name Hash: sha1sum

	Linux mcmillan 2.4.20-8 #1 Thu Mar 13 17:54:28 EST 2003 i686 i686 i386 GNU/Linux shasum (coreutils) 4.5.3 SCSI device sda: 71687370 512-byte hdwr sectors (36704 MB) Hash 1 sectors from 0 through 0 (dd bs=512 if=/dev/sda skip=0 count=1 | sha1sum | tr a-z A-Z >> sechashlog.txt) >>& sechashlog.txt 1+0 records in 1+0 records out F6055F9D115056CB31E68714B75D5D41EA264B9A - run start Sat Apr 16 13:09:49 EDT 2005 run finish Sat Apr 16 13:09:49 EDT 2005
Expected results:	***Sechash*** creates a new log file "sechashlog.txt". It prompts the user for a comment. It logs the comment, the drive, the program execution, the block of sectors for which it will compute the hash, the type of hash computed, the actual number of sectors in the block, and the hash value. It logs all other information required (compilation date, libraries, etc.)
Actual results:	No anomalies detected. The correctness of the SHA-1 hash computed for sector 0 has been assessed by comparing the hash to the hash computed by the script *cal-drive-count.csh* used to write the pattern onto sector 0.
Analysis:	Expected results achieved.

Case Shs-06	
Case summary:	Test whether ***sechash***: -creates a new log file with an alternate name although a log file with the same name already exists, by using the –log_name and –new_log options; -prompts the user to enter a comment; -logs the disk drive; -logs the program execution; -logs the block of sectors for which it will compute the hash, and the type of hash; -computes and logs the MD5 hash (explicitly specified by the –hash option) of the first sector of the disk by using the –first and –last options.
Tester name:	Serban
Test date:	Sat Apr 16 13:17:24 EDT 2005
PC:	McMillan

Disks:	Target: SCSI, /dev/sda, external label “CC”, model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run the script sechash.csh: sechash.csh shs-06 mcmillan serban /dev/sda CC -log_name sechashlog.txt -new_log -first 0 -last 0 -hash md5sum
Log files location:	Test-archive/sechash/shs-06/
Log file highlights:	**sechashlog.txt:** @(#) sechash.csh Linux Version 1.8 Created 03/18/05 at 11:11:24 CMD: /root/Forensic/bin/sechash.csh shs-06 mcmillan serban /dev/sda CC -log_name sechashlog.txt -new_log -first 0 -last 0 -hash md5sum Case: shs-06 Host: mcmillan User: serban Device: /dev/sda Label: CC Comment: Compute MD5 hash of sector 0, new alternate log file Hash: md5sum Linux mcmillan 2.4.20-8 #1 Thu Mar 13 17:54:28 EST 2003 i686 i686 i386 GNU/Linux md5sum (coreutils) 4.5.3 SCSI device sda: 71687370 512-byte hdwr sectors (36704 MB) Hash 1 sectors from 0 through 0 (dd bs=512 if=/dev/sda skip=0 count=1 | md5sum | tr a-z A-Z >> sechashlog.txt) >>& sechashlog.txt 1+0 records in 1+0 records out 9BA49A496A8BD64D9A5BD3AFE6CC1C9D - run start Sat Apr 16 13:17:24 EDT 2005 run finish Sat Apr 16 13:17:24 EDT 2005
Expected results:	***Sechash*** creates a new log file “sechashlog.txt”. It prompts the user for a comment. It logs the comment, the drive, the program execution, the block of sectors for which it will compute the hash, the type of hash computed, the actual number of sectors in the block, and the hash value. It logs all other information required (compilation date, libraries, etc.)
Actual results:	No anomalies detected. The correctness of the MD5 hash computed for sector 0 has been assessed by comparing the

	hash to the hash computed by the script *cal-drive-count.csh* used to write the pattern onto sector 0 – see the previous test case shs-05.
Analysis:	Expected results achieved.

Case Shs-07	
Case summary:	Test whether ***sechash***: -computes and logs the SHA-1 hash (explicitly specified by the –hash option) of the last sector of the disk by using the –first and –last options.
Tester name:	Serban
Test date:	Sat Apr 16 14:28:09 EDT 2005
PC:	McMillan
Disks:	Target: SCSI, /dev/sda, external label “CC”, model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run the script *cal-drive-count-seek.csh* to write a pattern on the last sector of the disk whose SHA-1 hash is known: cal-drive-count-seek.csh sda 1 71687369 > output.txt Run the script sechash.csh: sechash.csh shs-07 mcmillan serban /dev/sda CC -before -new_log -first 71687369 -last 71687369
Log files location:	Test-archive/sechash/shs-07/
Log file highlights:	**Output.txt**: [root@mcmillan shs-07]# cal-drive-count-seek.csh sda 1 71687369 This script will overwrite the drive on /dev/sda Everything on the drive /dev/sda WILL BE LOST Do you want to continue? [yes|no] yes 1+0 records in 1+0 records out 1+0 records in 1+0 records out MD5 should be: 9BA49A496A8BD64D9A5BD3AFE6CC1C9D - 1+0 records in 1+0 records out SHA1 should be: F6055F9D115056CB31E68714B75D5D41EA264B9A – **hasbsec.txt:** @(#) sechash.csh Linux Version 1.8 Created 03/18/05 at

	11:11:24 CMD: /root/Forensic/bin/sechash.csh shs-07 mcmillan serban /dev/sda CC -before -new_log -first 71687369 -last 71687369 Case: shs-07 Host: mcmillan User: serban Device: /dev/sda Label: CC Comment: Compute SHA-1 of last sector Hash: sha1sum Linux mcmillan 2.4.20-8 #1 Thu Mar 13 17:54:28 EST 2003 i686 i686 i386 GNU/Linux shasum (coreutils) 4.5.3 SCSI device sda: 71687370 512-byte hdwr sectors (36704 MB) Hash 1 sectors from 71687369 through 71687369 (dd bs=512 if=/dev/sda skip=71687369 count=1 | sha1sum | tr a-z A-Z >> hashbsec.txt) >>& hashbsec.txt 1+0 records in 1+0 records out F6055F9D115056CB31E68714B75D5D41EA264B9A - run start Sat Apr 16 14:28:09 EDT 2005 run finish Sat Apr 16 14:28:10 EDT 2005
Expected results:	***Sechash*** creates a new log file "hashbsec.txt". It prompts the user for a comment. It logs the comment, the drive, the program execution, the block of sectors for which it will compute the hash, the type of hash computed, the actual number of sectors in the block, and the hash value. It logs all other information required (compilation date, libraries, etc.)
Actual results:	No anomalies detected. The correctness of the SHA-1 hash computed for the last sector has been assessed by comparing the hash to the hash computed by the script *cal-drive-count-seek.csh* used to write the pattern onto the last sector.
Analysis:	Expected results achieved.

Case Shs-08	
Case summary:	Test whether ***sechash***: -computes and logs the MD5 hash (explicitly specified by the –hash option) of the last sector of the disk by using the –first and –last options.

Tester name:	Serban
Test date:	Sat Apr 16 14:39:28 EDT 2005
PC:	McMillan
Disks:	Target: SCSI, /dev/sda, external label “CC”, model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run the script sechash.csh: sechash.csh shs-08 mcmillan serban /dev/sda CC -before -new_log -first 71687369 -last 71687369 –hash md5sum
Log files location:	Test-archive/sechash/shs-08/
Log file highlights:	**hasbsec.txt:** @(#) sechash.csh Linux Version 1.8 Created 03/18/05 at 11:11:24 CMD: /root/Forensic/bin/sechash.csh shs-08 mcmillan serban /dev/sda CC -before -new_log -first 71687369 -last 71687369 -hash md5sum Case: shs-08 Host: mcmillan User: serban Device: /dev/sda Label: CC Comment: Compute MD5 hash of the last sector Hash: md5sum Linux mcmillan 2.4.20-8 #1 Thu Mar 13 17:54:28 EST 2003 i686 i686 i386 GNU/Linux md5sum (coreutils) 4.5.3 SCSI device sda: 71687370 512-byte hdwr sectors (36704 MB) Hash 1 sectors from 71687369 through 71687369 (dd bs=512 if=/dev/sda skip=71687369 count=1 | md5sum | tr a-z A-Z >> hashbsec.txt) >>& hashbsec.txt 1+0 records in 1+0 records out 9BA49A496A8BD64D9A5BD3AFE6CC1C9D - run start Sat Apr 16 14:39:28 EDT 2005 run finish Sat Apr 16 14:39:28 EDT 2005
Expected results:	***Sechash*** creates a new log file “hashbsec.txt”. It prompts the user for a comment. It logs the comment, the drive, the program execution, the block of sectors for which it will compute the hash, the type of hash computed, the actual number of sectors in the block, and the hash value. It logs all other information required (compilation date, libraries, etc.)
Actual results:	No anomalies detected. The correctness of the MD5 hash computed for the last sector has been assessed by

	comparing the hash to the hash computed by the script *cal-drive-count-seek.csh* used to write the pattern onto the last sector – see the previous test case shs-07.
Analysis:	Expected results achieved.

Case Shs-09	
Case summary:	Test whether ***sechash***: -computes and logs the SHA-1 hash of a group of contiguous sectors specified by the –first and –last options.
Tester name:	Serban
Test date:	Sat Apr 16 14:53:27 EDT 2005
PC:	McMillan
Disks:	Target: SCSI, /dev/sda, external label “CC”, model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run the script *cal-drive-count-seek.csh* to write a pattern on the group of sectors, whose SHA-1 hash is known: cal-drive-count-seek.csh sda 1000000 10000 > output.txt Run the script sechash.csh: sechash.csh shs-09 mcmillan serban /dev/sda CC -before -new_log -first 10000 -last 1009999 -hash sha1sum
Log files location:	Test-archive/sechash/shs-09/
Log file highlights:	**Output.txt**: [root@mcmillan shs-09]# cal-drive-count-seek.csh sda 1000000 10000 This script will overwrite the drive on /dev/sda Everything on the drive /dev/sda WILL BE LOST Do you want to continue? [yes|no] yes 1000000+0 records in 1000000+0 records out 1000000+0 records in 1000000+0 records out MD5 should be: 031F597C5019AE207AFFE8AE86DC3236 - 1000000+0 records in 1000000+0 records out SHA1 should be: 4CF049F6E78C709651EEDD478C8E7D738B698838 - **hasbsec.txt:** @(#) sechash.csh Linux Version 1.8 Created 03/18/05 at

	11:11:24 CMD: /root/Forensic/bin/sechash.csh shs-09 mcmillan serban /dev/sda CC -before -new_log -first 10000 -last 1009999 -hash sha1sum Case: shs-09 Host: mcmillan User: serban Device: /dev/sda Label: CC Comment: Compute SHA-1 hash for a group of sectors Hash: sha1sum Linux mcmillan 2.4.20-8 #1 Thu Mar 13 17:54:28 EST 2003 i686 i686 i386 GNU/Linux shasum (coreutils) 4.5.3 SCSI device sda: 71687370 512-byte hdwr sectors (36704 MB) Hash 1000000 sectors from 10000 through 1009999 (dd bs=512 if=/dev/sda skip=10000 count=1000000 | sha1sum | tr a-z A-Z >> hashbsec.txt) >>& hashbsec.txt 1000000+0 records in 1000000+0 records out 4CF049F6E78C709651EEDD478C8E7D738B698838 - run start Sat Apr 16 14:53:27 EDT 2005 run finish Sat Apr 16 14:53:48 EDT 2005
Expected results:	***Sechash*** creates a new log file "hashbsec.txt". It prompts the user for a comment. It logs the comment, the drive, the program execution, the block of sectors for which it will compute the hash, the type of hash computed, the actual number of sectors in the block, and the hash value. It logs all other information required (compilation date, libraries, etc.)
Actual results:	No anomalies detected. The correctness of the SHA-1 hash computed for the specified group of sectors last sector has been assessed by comparing the hash to the hash computed by the script *cal-drive-count-seek.csh* used to write the pattern onto the specified group of sectors.
Analysis:	Expected results achieved.

Case Shs-10	
Case summary:	Test whether ***sechash***: -computes and logs the MD5 hash of a group of contiguous sectors specified by the –first and –last options.

Tester name:	Serban
Test date:	Sat Apr 16 14:55:13 EDT 2005
PC:	McMillan
Disks:	Target: SCSI, /dev/sda, external label “CC”, model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run the script sechash.csh: sechash.csh shs-10 mcmillan serban /dev/sda CC -before -new_log -first 10000 -last 1009999 -hash md5sum
Log files location:	Test-archive/sechash/shs-10/
Log file highlights:	**hasbsec.txt:** @(#) sechash.csh Linux Version 1.8 Created 03/18/05 at 11:11:24 CMD: /root/Forensic/bin/sechash.csh shs-10 mcmillan serban /dev/sda CC -before -new_log -first 10000 -last 1009999 -hash md5sum Case: shs-10 Host: mcmillan User: serban Device: /dev/sda Label: CC Comment: Compute MD5 hash for a group of sectors Hash: md5sum Linux mcmillan 2.4.20-8 #1 Thu Mar 13 17:54:28 EST 2003 i686 i686 i386 GNU/Linux md5sum (coreutils) 4.5.3 SCSI device sda: 71687370 512-byte hdwr sectors (36704 MB) Hash 1000000 sectors from 10000 through 1009999 (dd bs=512 if=/dev/sda skip=10000 count=1000000 | md5sum | tr a-z A-Z >> hashbsec.txt) >>& hashbsec.txt 1000000+0 records in 1000000+0 records out 031F597C5019AE207AFFE8AE86DC3236 - run start Sat Apr 16 14:55:13 EDT 2005 run finish Sat Apr 16 14:55:27 EDT 2005
Expected results:	***Sechash*** creates a new log file “hashbsec.txt”. It prompts the user for a comment. It logs the comment, the drive, the program execution, the block of sectors for which it will compute the hash, the type of hash computed, the actual number of sectors in the block, and the hash value. It logs all other information required (compilation date, libraries, etc.)
Actual results:	No anomalies detected. The correctness of the MD5 hash computed for the specified group of sectors last sector has

	been assessed by comparing the hash to the hash computed by the script *cal-drive-count-seek.csh* used to write the pattern onto the specified group of sectors – see the previous test case shs-09.
Analysis:	Expected results achieved.

Case Shs-11	
Case summary:	Test whether ***sechash***: -detects that the –first value is bigger than the –last value.
Tester name:	Serban
Test date:	Sat Apr 16 15:05:00 EDT 2005
PC:	McMillan
Disks:	Target: SCSI, /dev/sda, external label “CC”, model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run the script sechash.csh: sechash.csh shs-11 mcmillan serban /dev/sda CC -before -new_log -first 10000 -last 9999 > output.txt
Log files location:	Test-archive/sechash/shs-11/
Log file highlights:	**Output.txt**: [root@mcmillan shs-11]# sechash.csh shs-11 mcmillan serban /dev/sda CC -before -new_log -first 10000 -last 9999 Case shs-11 Host mcmillan User serban Device /dev/sda Label CC Last sector (9999) is before first sector (10000) usage: sechash.csh TestCase Host User Device Label [-options] Options: -before Name the logfile hashblog.txt -after Name the logfile hashalog.txt -first <LBA> Start hashing at <LBA> -last <LBA> Stop hashing at <LBA> -comment <text> Record text in log -hash <prog_name> Use <prog_name> to compute a hash -new_log Create a new log file -log_name <name> Name the log file <name> -h Print this list of options
Expected results:	***Sechash*** detects the –first sector address is bigger than the –last sector address and issues an error message.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Shs-12	
Case summary:	Test whether ***sechash***: -detects an invalid –first sector address, i.e., outside the LBA range of the disk.
Tester name:	Serban
Test date:	Sat Apr 16 15:14:00 EDT 2005
PC:	McMillan
Disks:	Target: SCSI, /dev/sda, external label “CC”, model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run the script sechash.csh: sechash.csh shs-12 mcmillan serban /dev/sda CC -before -new_log -first 71687370 -last 71687380 > output.txt
Log files location:	Test-archive/sechash/shs-12/
Log file highlights:	**Output.txt**: [root@mcmillan shs-12]# sechash.csh shs-12 mcmillan serban /dev/sda CC -before -new_log -first 71687370 -last 71687380 Case shs-12 Host mcmillan User serban Device /dev/sda Label CC Last sector (71687380) is after end of drive (71687370) usage: sechash.csh TestCase Host User Device Label [-options] Options: -before Name the logfile hashblog.txt -after Name the logfile hashalog.txt -first <LBA> Start hashing at <LBA> -last <LBA> Stop hashing at <LBA> -comment <text> Record text in log -hash <prog_name> Use <prog_name> to compute a hash -new_log Create a new log file -log_name <name> Name the log file <name> -h Print this list of options
Expected results:	***Sechash*** detects the –first sector address points beyond the disk end and issues some error message.
Actual results:	No anomalies detected. ***sechash*** detects the –last value is incorrect, but we considered ***sechash*** passed the test because this situation cannot occur without another error that ***sechash*** reports.
Analysis:	Expected results achieved.

Case Shs-13	
Case summary:	Test whether ***sechash***:

	-detects an invalid –last sector address, i.e., outside the LBA range of the disk.
Tester name:	Serban
Test date:	Sat Apr 16 15:15:00 EDT 2005
PC:	McMillan
Disks:	Target: SCSI, /dev/sda, external label “CC”, model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run the script sechash.csh: sechash.csh shs-13 mcmillan serban /dev/sda CC -before -new_log -first 71687300 -last 71687380 > output.txt
Log files location:	Test-archive/sechash/shs-13/
Log file highlights:	**Output.txt**: [root@mcmillan shs-13]# sechash.csh shs-13 mcmillan serban /dev/sda CC -before -new_log -first 71687300 -last 71687380 Case shs-13 Host mcmillan User serban Device /dev/sda Label CC Last sector (71687380) is after end of drive (71687370) usage: sechash.csh TestCase Host User Device Label [-options] Options: -before Name the logfile hashblog.txt -after Name the logfile hashalog.txt -first <LBA> Start hashing at <LBA> -last <LBA> Stop hashing at <LBA> -comment <text> Record text in log -hash <prog_name> Use <prog_name> to compute a hash -new_log Create a new log file -log_name <name> Name the log file <name> -h Print this list of options
Expected results:	***Sechash*** detects the –last sector address points beyond the disk end and issues some error message.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

Case Shs-14	
Case summary:	Test whether ***sechash*** displays its usage mode when using the –h option.
Tester name:	Serban
Test date:	Sat Apr 16 15:15:00 EDT 2005
PC:	McMillan
Disks:	None.
Execute:	Run the script sechash.csh without arguments, with

	incorrect arguments, with the –h option alone on the command line, with correct arguments plus the –h option. Capture its standard output into a file: Sechash.csh > output.txt sechash.csh shs-14 mcmillan serban /dev/sda CC -before -new_log –logname >> output.txt sechash.csh –h >> output.txt sechash.csh shs-14 mcmillan serban /dev/sda CC -before -new_log -first 7300 -last 7380 >> output.txt
Log files location:	Test-archive/sechash/shs-14/
Log file highlights:	**Output.txt**: Must select -before, -after, or -log_name <name> usage: sechash.csh TestCase Host User Device Label [-options] Options: -before Name the logfile hashblog.txt -after Name the logfile hashalog.txt -first <LBA> Start hashing at <LBA> -last <LBA> Stop hashing at <LBA> -comment <text> Record text in log -hash <prog_name> Use <prog_name> to compute a hash -new_log Create a new log file -log_name <name> Name the log file <name> -h Print this list of options …
Expected results:	***Sechash*** displays its usage mode in each case.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

3.2.12 *Diskhash* Test Results Summary

Case Dhs-01	
Case summary:	Test whether ***diskhash***: -creates a new log file with the default name reflecting the –before option; -logs a one-word comment entered on the command line in the –comment option; -logs the disk drive; -logs the program execution; -logs the type of hash; -computes and logs the SHA-1 hash of the entire disk.
Tester name:	Serban
Test date:	Fri Apr 15 18:05:56 EDT 2005
PC:	McMillan
Disks:	Target: SCSI, /dev/sda, external label “CC”, model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run the *cal-drive.csh* script to write on the disk a pattern whose SHA-1 and MD5 hashes are known: cal-drive.csh sda > output.txt Run diskhash.csh script: diskhash.csh dhs-01 mcmillan serban /dev/sda CC -before -comment HashDisk -hash sha1sum
Log files location:	Test-archive/diskhash/dhs-01/
Log file highlights:	**Output.txt**: [root@mcmillan diskhash]# cal-drive.csh sda /dev/sda has 71687370 sectors This script will overwrite the drive on /dev/sda Everything on the drive /dev/sda WILL BE LOST Do you want to continue? [yes|no] yes 71687370+0 records in 71687370+0 records out 71687370+0 records in 71687370+0 records out MD5 should be: 9CF850670C1A43AF810093F7758C0277 - MD5 on drive is: 9CF850670C1A43AF810093F7758C0277 - 71687370+0 records in 71687370+0 records out SHA1 should be: EB2166A130781E350C6D71001E62DC520D68CAA2 -

	SHA1 on drive is: EB2166A130781E350C6D71001E62DC520D68CAA2 - **hashblog.txt:** @(#) diskhash.csh Linux Version 1.7 Created 03/18/05 at 11:11:24 CMD: /root/Forensic/bin/diskhash.csh dhs-01 mcmillan serban /dev/sda CC -before -comment HashDisk -hash sha1sum Case: dhs-01 Host: mcmillan User: serban Device: /dev/sda Label: CC Comment: HashDisk Hash: sha1sum Linux mcmillan 2.4.20-8 #1 Thu Mar 13 17:54:28 EST 2003 i686 i686 i386 GNU/Linux shasum (coreutils) 4.5.3 SCSI device sda: 71687370 512-byte hdwr sectors (36704 MB) (dd bs=512 if=/dev/sda | sha1sum | tr a-z A-Z >> hashblog.txt) >>& hashblog.txt 71687370+0 records in 71687370+0 records out EB2166A130781E350C6D71001E62DC520D68CAA2 - run start Fri Apr 15 18:05:56 EDT 2005 run finish Fri Apr 15 18:30:49 EDT 2005
Expected results:	***Diskhash*** creates a new log file "hashblog.txt". It logs the comment, the drive, the program execution, the type of hash computed, the actual number of disk sectors, computes the SHA-1 hash and logs the hash value. It logs all other information required.
Actual results:	No anomalies detected. The correctness of the SHA-1 hash computed for the specified disk drive has been assessed by comparing the hash to the hash computed by the script *cal-drive.csh* used to write the pattern onto the disk.
Analysis:	Expected results achieved.

Case Dhs-02	
Case summary:	Test whether ***diskhash***: -appends the log records to an existing log file; -logs a multi-word comment entered on the command line in the

	–comment option; -logs the disk drive; -logs the program execution; -logs the type of hash; -computes and logs the MD5 hash of the entire disk.
Tester name:	Serban
Test date:	Sat Apr 16 08:57:33 EDT 2005
PC:	McMillan
Disks:	Target: SCSI, /dev/sda, external label “CC”, model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run diskhash.csh script: diskhash.csh dhs-02 mcmillan serban /dev/sda CC -before -comment "Test MD5 hash" -hash md5sum
Log files location:	Test-archive/diskhash/dhs-02/
Log file highlights:	**hashblog.txt:** -----Log records of the previous case, followed by----- @(#) diskhash.csh Linux Version 1.7 Created 03/18/05 at 11:11:24 CMD: /root/Forensic/bin/diskhash.csh dhs-02 mcmillan serban /dev/sda CC -before -comment "Test MD5 hash" -hash md5sum Case: dhs-02 Host: mcmillan User: serban Device: /dev/sda Label: CC Comment: Test MD5 hash Hash: md5sum Linux mcmillan 2.4.20-8 #1 Thu Mar 13 17:54:28 EST 2003 i686 i686 i386 GNU/Linux md5sum (coreutils) 4.5.3 SCSI device sda: 71687370 512-byte hdwr sectors (36704 MB) (dd bs=512 if=/dev/sda | md5sum | tr a-z A-Z >> hashblog.txt) >>& hashblog.txt 71687370+0 records in 71687370+0 records out 9CF850670C1A43AF810093F7758C0277 - run start Sat Apr 16 08:57:33 EDT 2005 run finish Sat Apr 16 09:15:11 EDT 2005
Expected results:	***Diskhash*** appends the log records to the existing log file “hashblog.txt” created in the previous case. It logs the comment, the drive, the program execution, the type of hash computed, the actual number of disk sectors, computes the

	SHA-1 hash and logs the hash value. It logs all other information required.
Actual results:	No anomalies detected. The correctness of the MD5 hash computed for the specified disk drive has been assessed by comparing the hash to the hash computed by the script *cal-drive.csh* used to write the pattern onto the disk –see previous case dhs-01.
Analysis:	Expected results achieved.

Case Dhs-03	
Case summary:	Test whether ***diskhash***: -creates a new log file although a file with the same name already exists; -prompts the user for a comment and logs it; -logs the disk drive; -logs the program execution; -logs the type of hash; -computes and logs the SHA1 hash of the entire disk.
Tester name:	Serban
Test date:	Sat Apr 16 09:25:02 EDT 2005
PC:	McMillan
Disks:	Target: SCSI, /dev/sda, external label “CC”, model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run diskhash.csh script: diskhash.csh dhs-03 mcmillan serban /dev/sda CC -before -new_log -hash sha1sum
Log files location:	Test-archive/diskhash/dhs-03/
Log file highlights:	**hashblog.txt:** @(#) diskhash.csh Linux Version 1.7 Created 03/18/05 at 11:11:24 CMD: /root/Forensic/bin/diskhash.csh dhs-03 mcmillan serban /dev/sda CC -before -new_log -hash sha1sum Case: dhs-03 Host: mcmillan User: serban Device: /dev/sda Label: CC Comment: Interactive comment, sha1sum again, new log file Hash: sha1sum Linux mcmillan 2.4.20-8 #1 Thu Mar 13 17:54:28 EST 2003 i686 i686 i386 GNU/Linux shasum (coreutils) 4.5.3 SCSI device sda: 71687370 512-byte hdwr sectors (36704 MB)

	(dd bs=512 if=/dev/sda | sha1sum | tr a-z A-Z >> hashblog.txt) >>& hashblog.txt 71687370+0 records in 71687370+0 records out EB2166A130781E350C6D71001E62DC520D68CAA2 - run start Sat Apr 16 09:25:02 EDT 2005 run finish Sat Apr 16 09:49:59 EDT 2005
Expected results:	***Diskhash*** creates a new log file "hashblog.txt" although a file with the same name already exists. Prompts the user for a comment, logs the comment, the drive, the program execution, the type of hash computed, the actual number of disk sectors, computes the SHA-1 hash and logs the hash value. It logs all other information required (compilation date, libraries, etc.)
Actual results:	No anomalies detected. The correctness of the SHA-1 hash computed for the disk drive was assessed by comparing the hash to the hash computed by the script *cal-drive.csh* used to write the pattern onto the disk – see case dhs-01.
Analysis:	Expected results achieved.

Case Dhs-04	
Case summary:	Test whether ***diskhash***: -creates a log file with the name reflecting the –after option; -prompts the user for a comment and logs it; -logs the disk drive; -logs the program execution; -logs the type of hash; -computes and logs the SHA1 hash of the disk drive used in the previous case(s) after the last byte of the last sector was modified.
Tester name:	Serban
Test date:	Sat Apr 16 09:25:02 EDT 2005
PC:	McMillan
Disks:	Target: SCSI, /dev/sda, external label "CC", model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run diskhash.csh script: diskhash.csh dhs-04 mcmillan serban /dev/sda CC -after -new_log
Log files location:	Test-archive/diskhash/dhs-04/
Log file highlights:	**hashalog.txt:** @(#) diskhash.csh Linux Version 1.7 Created 03/18/05 at 11:11:24

	CMD: /root/Forensic/bin/diskhash.csh dhs-04 mcmillan serban /dev/sda CC -after -new_log Case: dhs-04 Host: mcmillan User: serban Device: /dev/sda Label: CC Comment: Hash after change Hash: sha1sum Linux mcmillan 2.4.20-8 #1 Thu Mar 13 17:54:28 EST 2003 i686 i686 i386 GNU/Linux shasum (coreutils) 4.5.3 SCSI device sda: 71687370 512-byte hdwr sectors (36704 MB) (dd bs=512 if=/dev/sda | sha1sum | tr a-z A-Z >> hashalog.txt) >>& hashalog.txt 71687370+0 records in 71687370+0 records out 5E88403E4222EAF631E3AB97D08A0FFFFB74FE49 - run start Sat Apr 16 09:55:52 EDT 2005 run finish Sat Apr 16 10:20:58 EDT 2005
Expected results:	***Diskhash*** creates a new log file "hashalog.txt". Prompts the user for a comment, logs the comment, the drive, the program execution, the type of hash computed – SHA1, the actual number of disk sectors, computes the SHA-1 hash and logs the hash value. It logs all other information required.
Actual results:	No anomalies detected. We cannot assess the correctness of the SHA-1 hash computed for the specified disk drive after modifying its contents. We only can verify that the computed hash value is different from the one recorded by the script cal-drive.csh or by ***diskhash*** in the previous case.
Analysis:	Expected results achieved.

Case Dhs-05	
Case summary:	Test whether ***diskhash***: -creates a log file with the alternate name specified in the –log_name option; -prompts the user for a comment and logs it; -logs the disk drive; -logs the program execution; -logs the type of hash; -computes and logs the MD5 hash of the specified disk drive.

Tester name:	Serban
Test date:	Sat Apr 16 10:24:39 EDT 2005
PC:	McMillan
Disks:	Target: SCSI, /dev/sda, external label “CC”, model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run diskhash.csh script: diskhash.csh dhs-05 mcmillan serban /dev/sda CC -log_name diskhashlog.txt -hash md5sum
Log files location:	Test-archive/diskhash/dhs-05/
Log file highlights:	**diskhashlog.txt:** @(#) diskhash.csh Linux Version 1.7 Created 03/18/05 at 11:11:24 CMD: /root/Forensic/bin/diskhash.csh dhs-05 mcmillan serban /dev/sda CC -log_name diskhashlog.txt -hash md5sum Case: dhs-05 Host: mcmillan User: serban Device: /dev/sda Label: CC Comment: Compute MD5 hash after modification Hash: md5sum Linux mcmillan 2.4.20-8 #1 Thu Mar 13 17:54:28 EST 2003 i686 i686 i386 GNU/Linux md5sum (coreutils) 4.5.3 SCSI device sda: 71687370 512-byte hdwr sectors (36704 MB) (dd bs=512 if=/dev/sda | md5sum | tr a-z A-Z >> diskhashlog.txt) >>& diskhashlog.txt 71687370+0 records in 71687370+0 records out 4E39B4D4E813A7C6A1E90637B0A281FD - run start Sat Apr 16 10:24:39 EDT 2005 run finish Sat Apr 16 10:43:39 EDT 2005
Expected results:	***Diskhash*** creates a new log file “diskhashlog.txt”. Prompts the user for a comment, logs the comment, the drive, the program execution, the type of hash computed, the actual number of disk sectors, computes the MD5 hash and logs the hash value. It logs all other information required (compilation date, libraries, etc.)
Actual results:	No anomalies detected. The correctness of the MD5 hash computed for the disk drive has been assessed by comparing the hash to the hash computed by the script *cal-drive.csh* used to write the pattern onto the disk – see case dhs-01.
Analysis:	Expected results achieved.

Case Dhs-06	
Case summary:	Test whether ***diskhash*** displays its usage mode when invoked with the –h option.
Tester name:	Serban
Test date:	Sat Apr 16 10:24:39 EDT 2005
PC:	McMillan
Disks:	Target: SCSI, /dev/sda, external label “CC”, model ST336705LC, serial # 3DE03HL300008110CEHF.
Execute:	Run diskhash.csh script without arguments, with incorrect arguments, with the –h option alone on the command line, and with correct arguments plus the –h option. Capture its standard output into a file: diskhash.csh > output.txt diskhash.csh dhs-05 mcmillan serban /dev/sda CC -logname >> output.txt diskhash.csh –h >> output.txt diskhash.csh dhs-05 mcmillan serban /dev/sda CC -log_name diskhashlog.txt -hash md5sum –h >> output.txt
Log files location:	Test-archive/diskhash/dhs-06/
Log file highlights:	**output.txt:** Must select -before, -after, or -log_name <name> usage: diskhash.csh TestCase Host User Device Label [-options] Options: -before Name the logfile hashblog.txt -after Name the logfile hashalog.txt -comment <text> Record text in log -hash <prog_name> Use <prog_name> to compute a hash -new_log Create a new log file -log_name <name> Name the log file <name> -h Print this list of options
Expected results:	***Diskhash*** displays its usage mode in each case.
Actual results:	No anomalies detected.
Analysis:	Expected results achieved.

3.2.13 Disk Logging Test Results Summary

Disk logging examines the result of three previous test cases, dkw-01, dkw-04, and dkw-09, to test that hard disk drives are logged correctly.

Case Dkw-01	
Case summary:	Test whether the disk geometry, model number, and serial number are correctly reported for SCSI drives.
Tester name:	Serban
Test date:	Thu Mar 31 11:23:03 2005
PC:	Mcmillan
Disks:	Destination: /dev/sda, external label “CC”, model ST336705LC serial # 3DE03HL300008110CEHF.
Execute:	Boot to Red Hat Linux (OS on disk labeled 81). Run command: diskwipe dkw-01 mcmillan serban /dev/sda CC -comment Wipeout
Log files location:	Test-archive/diskwipe/dkw-01/
Log file highlights:	**Wipedlog.txt:** … Wipe Drive /dev/sda 04461/254/63 (max cyl/hd values) 04462/255/63 (number of cyl/hd) 71687370 total number of sectors Non-IDE disk Model (ST336705LC) serial # (3DE03HL300008110CEHF) 71687370 sectors wiped with CC run start Thu Mar 31 11:23:03 2005 run finish Thu Mar 31 12:20:09 2005 elapsed time 0:57:6 Normal exit
Expected results:	The tool logs disk’s model and serial numbers, reasonable geometry numbers (maximum number of cylinders, heads, sectors/track, and total number of sectors), and the type of interface (IDE/non-IDE).
Actual results:	No anomalies detected. The geometry, model and serial number, and interface reported coincide with those reported by the Linux OS at boot time.
Analysis:	Expected results achieved.

Case Dkw-04	
Case summary:	Test whether the disk geometry, model number, and serial

	number are correctly reported for IDE drives.
Tester name:	Serban
Test date:	Mar 31 16:24:14 2005
PC:	Mcmillan
Disks:	Source: /dev/hdb, external label “7F”, model MAXTOR 6L040J2 serial # 662201137770
Execute:	Run ***diskwipe***: diskwipe dkw-04 mcmillan serban /dev/hdb 7F -src -noask
Log files location:	Test-archive/diskwipe/dkw-04
Log file highlights:	**Wipeslog.txt:** … Wipe Drive /dev/hdb 04865/254/63 (max cyl/hd values) 04866/255/63 (number of cyl/hd) 78177792 total number of sectors IDE disk: Model (MAXTOR 6L040J2) serial # (662201137770) 78177792 sectors wiped with 7F run start Thu Mar 31 16:24:14 2005 run finish Thu Mar 31 17:23:32 2005 elapsed time 0:59:18 Normal exit
Expected results:	The tool logs disk’s model and serial numbers, reasonable geometry numbers (maximum number of cylinders, heads, sectors/track, and total number of sectors), and the type of interface (IDE/non-IDE).
Actual results:	No anomalies detected. The geometry, model and serial number, and interface reported coincide with those reported by the Linux OS at boot time.
Analysis:	Expected results achieved.

Case Dkw-09	
Case summary:	Test whether the disk geometry, model number, and serial number are correctly reported for SATA drives.
Tester name:	Serban
Test date:	Mon Mar 28 15:44:48 2005
PC:	Frank
Disks:	Destination: /dev/sda, external label “10B”, model WDC WD2500JD-22F, serial # WD-WMAEH2677545.
Execute:	Run ***diskwipe***: diskwipe dkw-09 frank serban /dev/sda AA -new_log -noask
Log files location:	Test-archive/diskwipe/dkw-09
Log file highlights:	**dkwlog.txt:**

	… Wipe Drive /dev/sda 30400/254/63 (max cyl/hd values) 30401/255/63 (number of cyl/hd) 488397168 total number of sectors Non-IDE disk Model (WDC WD2500JD-22F) serial # (WD-WMAEH2677545) 488397168 sectors wiped with AA run start Mon Mar 28 15:44:48 2005 run finish Mon Mar 28 20:10:10 2005 elapsed time 4:25:22 Normal exit
Expected results:	The tool logs disk's model and serial numbers, reasonable geometry numbers (maximum number of cylinders, heads, sectors/track, and total number of sectors), and the type of interface (IDE/non-IDE).
Actual results:	No anomalies detected. The geometry, model and serial number, and interface reported coincide with those reported by the Fedora Core 3 OS at boot time.
Analysis:	Expected results achieved.