

JAN. 10 NIJ **Special** REPORT Test Results for Digital Data Acquisition Tool: Logicube Forensic Talon (Software Version 2.43) www.ojp.usdoj.gov/nij

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	Test Results for Digital Data Acquisition Tool: Logicube Forensic Talon (Software Version 2.43)
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NIJ

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August 2009

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Introduction

The Computer Forensics Tool Testing (CFTT) program is a joint project of the National Institute of Justice (NIJ), the research and development organization of the U.S. Department of Justice (DOJ), and the National Institute of Standards and Technology's (NIST's) Office of Law Enforcement Standards and Information Technology Laboratory. CFTT is supported by other organizations, including the Federal Bureau of Investigation, the U.S. Department of Defense Cyber Crime Center, U.S. Internal Revenue Service Criminal Investigation Division Electronic Crimes Program, and the U.S. Department of Homeland Security's Bureau of Immigration and Customs Enforcement and U.S. Secret Service. The objective of the CFTT program is to provide measurable assurance to practitioners, researchers, and other applicable users that the tools used in computer forensics investigations provide accurate results. Accomplishing this requires the development of specifications and test methods for computer forensics tools and subsequent testing of specific tools against those specifications.

Test results provide the information necessary for developers to improve tools, users to make informed choices, and the legal community and others to understand the tools' capabilities. The CFTT approach to testing computer forensic tools is based on well-recognized methodologies for conformance and quality testing. The specifications and test methods are posted on the CFTT Web site (<u>http://www.cftt.nist.gov/</u>) for review and comment by the computer forensics community.

This document reports the results from testing the Logicube Forensic Talon, software version 2.43, against the *Digital Data Acquisition Tool Assertions and Test Plan Version 1.0*, available at the CFTT Web site (http://www.cftt.nist.gov/DA-ATP-pc-01.pdf).

Test results from other tools and the CFTT tool methodology can be found on NIJ's computer forensics tool testing Web page, <u>http://www.ojp.usdoj.gov/nij/topics/technology/electronic-crime/cftt.htm</u>.

Test Results for Digital Data Acquisition Tool

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1 Results Summary

Except for one test case, DA–01–PCMCIA, the tested tool acquired all visible and hidden sectors completely and accurately from the test media without anomaly. The following anomaly was observed:

• Data was inaccurately acquired over the PCMCIA interface (DA-01-PCMCIA).

2 Test Case Selection

Test cases used to test disk imaging tools are defined in *Digital Data Acquisition Tool Assertions and Test Plan Version 1.0.* To test a tool, test cases are selected from the *Test Plan* document based on the features offered by the tool. Not all test cases or test assertions are appropriate for all tools. There is a core set of base cases (DA–06, DA–07 and DA–08) that are executed for every tool tested. Tool features guide the selection of additional test cases. If a given tool implements a given feature then the test cases linked to that feature are run. Table 1 lists the features available in the Forensic Talon and the linked test cases selected for execution. Table 2 lists the features not available in the Forensic Talon and the test cases not executed.

Supported Optional Feature	Cases selected for execution
Create a clone during acquisition	01
Create a truncated clone from a physical device	04
Base Cases	06, 07 & 08
Read error during acquisition	09
Insufficient space for image file	12
Fill excess sectors on a clone acquisition	19

Table 1 Selected Test Cases

Table 2 Omitted Test Cases

Unsupported Optional Feature	Cases omitted (not executed)
Create an unaligned clone from a digital source	02
Create cylinder aligned clones	03, 15, 21 & 23
Convert an image file from one format to	26
another	
Destination Device Switching	13
Device I/O error generator available	05, 11 & 18
Fill excess sectors on a clone device	20, 21, 22 & 23
Create a clone from an image file	14 & 17
Create a clone from a subset of an image file	16
Detect a corrupted (or changed) image file	24 & 25

Some test cases have variant forms to accommodate parameters within test assertions. These variations cover the acquisition interface to the source drive and how the tool treats faulty sectors encountered on source media. Acquisition speed was also varied between test cases.

The following source interfaces were tested: ATA28, ATA48, SATA28, SATA48, USB, XUSB, and PCMCIA. These are noted as variations on test cases DA–01, DA–06, and DA–08. See section 4 for a discussion of testing the USB, XUSB, and PCMCIA source interfaces.

For test case DA–09 the Forensic Talon's methods for treating faulty sectors encountered on source media are varied so that reads of faulty sectors are either retried (RETRY) or not retried (SKIP).

The compact flash digital source type was tested in test case DA-07-CF.

Acquisition speeds were varied between UDMA–0, UDMA–3, UDMA–5, and PIO–AUTO.

3 Results by Test Assertion

A test assertion is a verifiable statement about a single condition after an action is performed by the tool under test. A test case usually checks a group of assertions after the action of a single execution of the tool under test. Test assertions are defined and linked to test cases in *Digital Data Acquisition Tool Assertions and Test Plan Version 1.0*. Table 3 summarizes the test results for all the test cases by assertion. The column labeled **Assertions Tested** gives the text of each assertion. The column labeled **Tests** gives the number of test cases that use the given assertion. The column labeled **Anomaly** gives the section number in this report where any observed anomalies are discussed.

See section 2 for a discussion of source access interface and digital source.

Table 3 Assertions Tested

Assertions Tested	Tests	Anomaly
AM-01 The tool uses access interface SRC-AI to access	23	
the digital source.		
AM-02 The tool acquires digital source DS.	23	
AM-03 The tool executes in execution environment XE.	23	
AM-04 If clone creation is specified, the tool	9	
creates a clone of the digital source.		
AM-05 If image file creation is specified, the tool	14	
creates an image file on file system type FS.		
AM-06 All visible sectors are acquired from the	22	
digital source.		
AM-U/ All hidden sectors are acquired from the	3	
digital source.	~~	2 1
AM-08 All sectors acquired from the digital source	22	3.1
are acquired accurately.	4	
AM-09 II unresolved errors occur while reading from	4	
the selected digital source, the tool notifies the		
digital source		
Algital Source.	1	
AM-10 II unresolved errors occur while reading from	4	
fill in the destination object in place of the		
inaccessible data		
AO-01 If the tool creates an image file, the data	13	
represented by the image file is the same as the data	15	
acquired by the tool		
AO-04 If the tool is creating an image file and there	1	
is insufficient space on the image destination device	-	
to contain the image file, the tool shall notify the		
user.		
AO-05 If the tool creates a multifile image of a	13	
requested size then all the individual files shall be		
no larger than the requested size.		
AO-11 If requested, a clone is created during an		
acquisition of a digital source.		
AO-13 A clone is created using access interface DST-	9	
AI to write to the clone device.		
AO-14 If an unaligned clone is created, each sector	9	
written to the clone is accurately written to the		
same disk address on the clone that the sector		
occupied on the digital source.		
AO-17 If requested, any excess sectors on a clone	6	
destination device are not modified.		
AO-18 If requested, a benign fill is written to	1	
excess sectors of a clone.		
AO-19 If there is insufficient space to create a	1	
complete clone, a truncated clone is created using		
all available sectors of the clone device.	1	
AO-20 If a truncated clone is created, the tool		
notifies the user.	E	
AU-22 II requested, the tool calculates block hashes	5	
Lord block acquired from the digital course		
A0-23 If the tool logs any log significant	23	
LAG 20 II CHE COUL LOUS ANY LOU SIGNIFICANC	20	

Assertions Tested	Tests	Anomaly
information, the information is accurately recorded		
in the log file.		
AO-24 If the tool executes in a forensically safe	23	
execution environment, the digital source is		
unchanged by the acquisition process.		

Two test assertions only apply in special circumstances. The assertion AO–22 is checked only for tools that create block hashes. For the Forensic Talon block hash computation was only tested in five test cases. The assertion AO–24 is only checked if the tool is executed in a run time environment that does not modify attached storage devices, such as MS DOS. In normal operation an imaging tool is used in conjunction with a write block device to protect the source drive; however a blocker was not used during the tests so that assertion AO–24 could be checked. Table 4 lists the assertions that were not tested, usually due to the tool not supporting some optional feature, e.g., creation of cylinder aligned clones.

Table 4 Assertions not Tested

Assertions not Tested		
AO-02 If an image file format is specified, the tool creates an image		
file in the specified format.		
AO-03 If there is an error while writing the image file, the tool		
notifies the user.		
AO-06 If the tool performs an image file integrity check on an image		
file that has not been changed since the file was created, the tool		
shall notify the user that the image file has not been changed.		
AO-07 If the tool performs an image file integrity check on an image		
file that has been changed since the file was created, the tool shall		
notify the user that the image file has been changed.		
AO-08 If the tool performs an image file integrity check on an image		
file that has been changed since the file was created, the tool shall		
notify the user of the affected locations.		
AO-09 If the tool converts a source image file from one format to a		
target image file in another format, the acquired data represented in		
the target image file is the same as the acquired data in the source		
Image file.		
AU-10 If there is insufficient space to contain all files of a		
multifule image and if destination device switching is supported, the		
Image is continued on another device.		
AO-12 II requested, a clone is created from an image file.		
AO-15 II an aligned clone is created, each sector within a contiguous		
span of sectors from the source is accurately written to the same disk		
address on the crone device relative to the start of the span as the		
defined to be either a mountable neutition on a centimous economic of		
defined to be either a mountable partition or a contiguous sequence of		
sectors not part of a mountable partition. Extended partitions, which		
may contain both mountable partitions and unarrocated sectors, are not		
100-16 If a subset of an image or acquisition is specified all the		
subset is cloned		
AO-21 If there is a write error during clone creation, the tool		
notifies the user.		
notifies the user.		

3.1 PCMCIA Acquisition

In test case DA–01–PCMCIA where the PCMCIA interface was used to acquire a laptop's internal hard drive the tool did not acquire all sectors accurately. 220,416 sectors were not acquired. In their place, sectors from earlier and later parts of the source drive were written to the destination drive. The acquisition hash computed by the tool did not match the source drive's reference hash.

4 Testing Environment

The tests were run in the NIST CFTT lab. This section describes the test computers available for testing, using the support software, and notes on other test hardware.

The majority of the tests were run using a standard configuration of the Forensic Talon and the natively supported ATA and SATA interfaces. Three test cases tested alternate configurations and interfaces. Test case DA–01–USB tested the acquisition of USB devices using the Logicube Omni Port adapter. DA–01–PCMCIA and DA–01–XUSB acquired devices over the PCMCIA and USB interfaces using vendor-supplied boot CDs and DOS programs.

4.1 Test Computers

For most test cases the Forensic Talon images a drive without assistance from a computer, however for test cases DA–01–PCMCIA and DA–01–XUSB the test computer, Chip, was used.

Chip has the following configuration:

Dell Latitude D800 Phoenix Technologies BIOS Revision A09 Intel® Pentium[™] M CPU 1.7Ghz Intel® 855PM chipset 2GB RAM Samsung SN–324S CDRW/DVD-ROM drive 1 PCMCIA port 3 USB 2.0 ports 1 IEEE 1394 port

4.2 Support Software

A package of programs to support test analysis, FS-TST Release 2.0, was used. The software can be obtained from: <u>http://www.cftt.nist.gov/diskimaging/fs-tst20.zip</u>.

4.3 Test Drive Creation

There are three ways that a hard drive may be used in a tool test case: as a source drive that is imaged by the tool, as a media drive that contains image files created by the tool under test, or as a destination drive on which the tool under test creates a clone of the

source drive. In addition to the operating system drive formatting tools, some tools (diskwipe and diskhash) from the FS-TST package are used to setup test drives.

To setup a media drive, the drive is formatted with one of the supported file systems. A media drive may be used in several test cases.

The setup of most source drives follows the same general procedure, but there are several steps that may be varied depending on the needs of the test case.

- 1. The drive is filled with known data by the **diskwipe** program from FS-TST. The **diskwipe** program writes the sector address to each sector in both C/H/S and LBA format. The remainder of the sector bytes is set to a constant fill value unique for each drive. The fill value is noted in the **diskwipe** tool log file.
- 2. The drive may be formatted with partitions as required for the test case.
- 3. An operating system may optionally be installed.
- 4. A set of reference hashes is created by the FS-TST **diskhash** tool. These include both SHA1 and MD5 hashes. In addition to full drive hashes, hashes of each partition may also be computed.
- 5. If the drive is intended for hidden area tests (DA–08), an HPA, a DCO or both may be created. The **diskhash** tool is then used to calculate reference hashes of just the visible sectors of the drive.

The source drives for DA–09 are created such that there is a consistent set of faulty sectors on the drive. Each of these source drives is initialized with **diskwipe** and then their faulty sectors are activated. For each of these source drives, a second drive of the same size with the same content as the faulty sector drive, but with no faulty sectors serves as a reference drive for images made from the faulty drive.

To setup a destination drive, the drive is filled with known data by the **diskwipe** program from FS-TST. Partitions may be created if the test case involves restoring from the image of a logical acquire.

4.4 Test Drive Analysis

For test cases (DA–01, DA–09, and DA–19) that create on a destination drive a cloned version of a source drive, the source is compared using the FS-TST programs **diskcmp** (for an entire drive) and **partcmp** (for a single partition) to the destination and any differences are noted. For test case DA–09, using a drive with known bad sectors, the program **anabad** is used to compare the bad sector reference drive to a cloned version of the of the bad sector drive.

For test cases such as DA–06 and DA–07 the acquisition hash is compared to the reference hash of the source to check that the source is completely and accurately acquired.

4.5 Note on Test Drives

The testing uses several test drives from a variety of vendors. The drives are identified by an external label that consists of a two digit hexadecimal value and an optional tag, e.g., 25–SATA. The combination of hex value and tag serves as a unique identifier for each drive. The two digit hex value is used by the FS-TST **diskwipe** program as a sector fill value. The FS-TST compare tools, **diskcmp** and **partcmp**, count sectors that are filled with the source and destination fill values on a destination that is larger than the original source.

5 Test Results

The main item of interest for interpreting the test results is determining the conformance of the device with the test assertions. Conformance with each assertion tested by a given test case is evaluated by examining the **Log File Highlights** box of the test report summary.

5.1 Test Results Report Key

A summary of the actual test results is presented in this report. The following table presents a description of each section of the test report summary. The Tester Name, Test Host, Test Date, Drives, Source Setup and Log Highlights sections for each test case are populated by excerpts taken from the logfiles produced by the tool under test and the FS-TST tools that were executed in support of test case setup and analysis.

Heading	Description	
First Line:	Test case ID, name, and version of tool tested.	
Case Summary:	Test case summary from <i>Digital Data Acquisition Tool</i>	
	Assertions and Test Plan Version 1.0.	
Assertions:	The test assertions applicable to the test case, selected from	
	Digital Data Acquisition Tool Assertions and Test Plan	
	Version 1.0.	
Tester Name:	Name or initials of person executing test procedure.	
Test Host:	Host computer executing the test.	
Test Date:	Time and date that test was started.	
Drives:	Source drive (the drive acquired), destination drive (if a	
	clone is created) and media drive (to contain a created	
	image).	
Source Setup:	Layout of partitions on the source drive and the expected	
	hash of the drive.	
Log Highlights:	lights: Information extracted from various log files to illustrate	
	conformance or nonconformance to the test assertions.	
Results	Expected and actual results for each assertion tested.	
Analysis	Whether or not the expected results were achieved.	

5.2 Test Details

5.2.1 DA-01-ATA28

Test Case DA-01-ATA28 F-TALON V2.43			
Case Summary:	DA-01 Acquire a physical device using access interface AI to an unaligned clone.		
Assertions:	AM-01 The tool uses access interface SRC-AI to access the digital source. AM-02 The tool acquires digital source DS. AM-03 The tool executes in execution environment XE. AM-04 If clone creation is specified, the tool creates a clone of the digital source. AM-06 All visible sectors are acquired from the digital source. AM-08 All sectors acquired from the digital source are acquired accurately. AO-11 If requested, a clone is created during an acquisition of a digital source. AO-13 A clone is created using access interface DST-AI to write to the clone		
	 device. AO-14 If an unaligned clone is created, each sector written to the clone is accurately written to the same disk address on the clone that the sector occupied on the digital source. AO-17 If requested, any excess sectors on a clone destination device are not modified. AO-22 If requested, the tool coloudates block backs for a creative block. 		
	size during an acquisition for each block acquired from the digital source. AO-23 If the tool logs any log significant information, the information is accurately recorded in the log file. AO-24 If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process.		
Tester Name:	bri		
Test Host:	Athos		
Test Date:	Wed Oct 17 10:06:36 2007		
Drives:	<pre>src(43) dst (23-SATA) other (none)</pre>		
Setup:	<pre>2658F47603DE6B1D883B64823B9733F578658D08D06A4BB8C053C4F57BDC615E > src hash (SHA1): < 888E2F7FAD237DC7A732281DD93F325065E877 > 78125000 total sectors (4000000000 bytes) Model (0BB-75JHC0) serial # (WD-WMAMC46588) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 00000063 020980827 0000/001/01 1023/254/63 0C Fat32X 2 X 020980890 057143205 1023/000/01 1023/254/63 0F extended 3 s 00000063 00032067 1023/001/01 1023/254/63 0F extended 5 s 00000063 002104515 1023/001/01 1023/254/63 06 Fat16 6 x 002136645 004192965 1023/001/01 1023/254/63 05 extended 7 s 00000063 004192902 1023/001/01 1023/254/63 05 extended 9 s 00000063 008401995 1023/001/01 1023/254/63 05 extended 11 s 00000063 01492902 1023/001/01 1023/254/63 05 extended 12 x 02522050 004209030 1023/001/01 1023/254/63 05 extended 13 s 00000063 01490445 1023/001/01 1023/254/63 05 extended 13 s 00000063 004208967 1023/001/01 1023/254/63 05 extended 14 x 029431080 027712125 1023/001/01 1023/254/63 05 extended 15 s 00000063 027712125 1023/001/01 1023/254/63 05 extended 15 s 000000063 004208967 1023/001/01 1023/254/63 05 extended 15 s 000000063 004208967 1023/001/01 1023/254/63 05 extended 15 s 000000063 0027712125 1023/001/01 1023/254/63 05 extended 15 s 000000063 027712125 1023/001/01 1023/254/63 05 extended 15 s 000000063 027712125 1023/001/01 1023/254/63 05 extended 15 s 000000063 0027712125 1023/001/01 1023/254/63 05 extended 15 s 00000006 0000/000/00 0000/000/00 000 empty entry 17 P 00000000 00000000 0000/000/00 0000/000 00</pre>		

Test Case DA-	-01-ATA28 F-TALON V2.43	
Log Highlights:	Destination setup 156301488 sectors wiped with 23	
	Comparision of original to clone Drive Sectors compared: 78125000	
	Sectors match: 78125000 Sectors differ: 0	
	Bytes differ: 0 Diffs range	
	Source (78125000) has 78176488 fewer sectors t	han destination (156301488)
	Src Byte fill (43): 0	
	Dst Byte fill (23): 78176488 Other fill: 0	
	Other no fill: 0	
	Src fill range:	
	Dst fill range: 78125000-156301487	
	Other not filled range: 0 source read errors 0 destination read error	q
	titit popping milon operiol No. 15001	
	FORENSIC TALON SETIAL NO.: 15881 SESSION SETTINGS	SULLWAIE: V2.43
	Operating Mode: Capture Address M Verify : SHA-256 Speed	lode: LBA : UDMA-0
	Connection : Direct	
	SUCCESSFULLY EXECUTED ON THE EVI	DENCE DRIVE!
	Operator declined FULL and remainder Dest ************************************	ination Drive erase! ******
	Physical Characteristic	S
	Serial: WD-WMAMC4658888	
	Cylinders Heads Sectors Total S	ectors Drive Size
	Computed SHA-256 Value: 2658F47603DE6B1D883B64823E9733F578658D08D0	6A4BB8C053C4F57BDC615E
	Skipped Sectors: 0	****
	Physical Characteristic	S
	Drive Model: ST380013AS	
	Cylinders Heads Sectors Total S	ectors Drive Size
	155061 16 63 156301 Computed SHA-256 Value: NONE	488 74.5 GB
	Skipped Sectors: 0 Settings: error skip	
	speed UDMA-0	
Results:		
	Assertion & Expected Result	Actual Result
	AM-01 Source acquired using interface AI.	as expected
	AM-03 Execution environment is XE.	as expected
	AM-04 A clone is created.	as expected
	AM-06 All visible sectors acquired.	as expected
	AM-08 All sectors accurately acquired.	as expected
	AO-11 A clone is created during acquisition.	as expected
	AU-13 Clone created using interface AI.	as expected
	AU-14 An unaligned clone is created.	as expected
	AU-17 Excess sectors are unchanged.	as expected
	A0-23 Logged information is correct	as expected
	AO-24 Source is unchanged by acquisition.	as expected
Analvsis:	Expected results achieved	

5.2.2 DA-01-ATA48

Test Case DA-01-ATA48 F-TALON V2.43		
Case Summary:	DA-01 Acquire a physical device using access interface AI to an unaligned clone.	
Assertions:	clone. ns: AM-01 The tool uses access interface SRC-AI to access the digital source. AM-02 The tool acquires digital source DS. AM-03 The tool executes in execution environment XE. AM-04 If clone creation is specified, the tool creates a clone of the digital source. AM-06 All visible sectors are acquired from the digital source. AM-08 All sectors acquired from the digital source are acquired accurately. AO-11 If requested, a clone is created during an acquisition of a digital source. AO-13 A clone is created using access interface DST-AI to write to the clone device. AO-14 If an unaligned clone is created, each sector written to the clone is accurately written to the same disk address on the clone that the sector occupied on the digital source. AO-17 If requested, any excess sectors on a clone destination device are not modified. AO-22 If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source. AO-23 If the tool logs any log significant information, the information is accurately recorded in the log file. AO-24 If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process.	
Tester Name:	brl	
Test Host:	Athos	
Test Date:	Wed Oct 17 16:48:21 2007	
Drives:	<pre>src(4C) dst (2B-IDE) other (none)</pre>	
Source	<pre>src hash (SHA1): < 8FF620D2BEDCCAFE8412EDAAD56C8554F872EFBF ></pre>	
	24320/254/63 (max cyl/hd values) 24321/255/63 (number of cyl/hd) IDE disk: Model (WDC WD2000JB-00KFA0) serial # (WD-WMAMR1031111) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 390700737 0000/001/01 1023/254/63 Boot 07 NTFS 2 P 000000000 00000000 0000/000/00 0000/000/00 00	
Log Highlights:	Destination setup 490234752 sectors wiped with 2B Comparision of original to clone Drive Sectors compared: 390721968 Sectors match: 390721968	
	Sectors differ: 0 Bytes differ: 0 Diffs range Source (390721968) has 99512784 fewer sectors than destination (490234752) Zero fill: 0 Src Byte fill (4C): 0 Dst Byte fill (2B): 99512784 Other fill: 0 Other no fill: 0 Zero fill range: Src fill range: 390721968-490234751 Other fill range: 390721968-490234751 Other fill range: Other not filled range: 0 source read errors, 0 destination read errors ***** FORENSIC TALON Serial No.: 15881 Software: V2.43 *****	

Test Case DA-01-ATA48 F-TALON V2.43					
	Operating Mode: Capture Address M	ode: LBA			
	Verify : HW-MD5 Speed	: UDMA-4			
	Connection : Direct				
	100% MIRROR COPY OF THE SUSPECT D	RIVE HAS BEEN			
	SUCCESSFULLY EXECUTED ON THE EVIDENCE DRIVE!				
	Operator declined FULL and remainder Destination Drive erase!				

	Physical Characteristics				
	Drive Model: WDC WD2000JB-00KFA0				
	Serial: WD-WMAMRI031111				
	Cylinders Heads Sectors Total S	ectors Drive Size			
	38/621 16 63 390/21	968 186.3 GB			
	Computed MD5 Value: D10F/63B 56D4CEBA 2D1311C6 1F9FB382				
	SKIPPED SECLOIS: U	*****			
	DESIGNATION DRIVE Physical Characteristic	e			
	Drive Model: Maxtor 7Y250P0	5			
	Diive model: Maxlor /120000 Serial: V63DOXCE				
	Culinders Heads Sectors Total Sectors Drive Size				
	486344 16 63 490234	752 233.8 GB			
	Computed SHA-256 Value: NONE				
	Skipped Sectors: 0				
	Settings: error skip				
	speed UDMA-5				
Results:					
	Assertion & Expected Result	Actual Result			
	AM-01 Source acquired using interface AI.	as expected			
	AM-02 Source is type DS.	as expected			
	AM-03 Execution environment is XE.	as expected			
	AM-04 A clone is created.	as expected			
	AM-06 All visible sectors acquired.	as expected			
	AM-08 All sectors accurately acquired.	as expected			
	AO-11 A clone is created during acquisition.	as expected			
	AO-13 Clone created using interface AI.	as expected			
	AO-14 An unaligned clone is created.	as expected			
	AO-17 Excess sectors are unchanged.	as expected			
	AO-22 Tool calculates hashes by block.	option not tested			
	AO-23 Logged information is correct.	as expected			
	A0-24 Source is unchanged by acquisition.	as expected			
Analysis	Expected results achieved				

5.2.3 DA-01-PCMCIA

Test Case DA-01-PCMCIA F-TALON V2.43				
Case	DA-01 Acquire a physical device using access interface AI to an unaligned			
Summary:	clone.			
Assertions:	AM-01 The tool uses access interface SRC-AI to access the digital source. AM-02 The tool acquires digital source DS. AM-03 The tool executes in execution environment XE.			
	AM-04 If clone creation is specified, the tool creates a clone of the digital source.			
	AM-06 All visible sectors are acquired from the digital source. AM-08 All sectors acquired from the digital source are acquired accurately. AO-11 If requested, a clone is created during an acquisition of a digital			
	AO-13 A clone is created using access interface DST-AI to write to the clone device.			
	AO-14 If an unaligned clone is created, each sector written to the clone is accurately written to the same disk address on the clone that the sector occupied on the digital source.			
	AO-17 If requested, any excess sectors on a clone destination device are not modified.			
	AO-22 If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source. AO-23 If the tool logs any log significant information, the information is accurately recorded in the log file.			
	A0-24 If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process.			
Tester Name:	brl			
Test Host:	Athos			
Test Date:	Wed Nov 14 09:58:03 2007			
Drives:	src(09-LAP) dst (8C) other (none)			
Source	src hash (SHA1): < 118459903C8BB9E6D668DBFDD5D54832BE88E029 >			
Setup:	<pre>src hash (MD5): < 602C740729A16808E42696C1D9C93C96 > 195371568 total sectors (100030242816 bytes)</pre>			
	12160/254/63 (max cyl/hd values) 12161/255/63 (number of cyl/hd) Model (A) serial # (5MHOKZ)			
	This drive has a DCO of 8000001 sectors			
	The hashes with DCO in place are:			
	MD5: 00A81DE5822E84E9606DEF68D9D17367			
	SHA1: 7A247D230345EFC1A412586A83AA6AD66266D2B1			
Log Highlights:	Destination setup 39102336 sectors wiped with 8C			
	Comparision of original to clone Drive			
	Sectors compared: 8000001			
	Sectors match: 7779585			
	Sectors differ: 220416			
	Bytes differ: 2200591			
	Diffs range 8704-8959, 17920-18175, 27136-27391, 36352-36607,			
	45824-460/9, 55040-55295, 64256-64511, /3/28-/3983,			
	82944-83199, 92100-92413, 101376-101831, 110848-111103, 120064-1200310, 12020-120535, 120406-120751, 147060-140223			
	120004-120319, 129200-129333, 130490-130751, 147900-140223, 157184-157439, 166400-166655, 175872-176127, 185088-185343 + 215296			
	more Source (8000001) has 31102335 fewer sectors than destination (39102336) Zero fill: 0			
	Src Byte fill (09): 0			
	Dst Byte fill (8C): 31102335			
	Other fill: 0			
	Other no fill: 0			
	Zero IIII range:			
	Dst fill range: 8000001-39102335			
	Other fill range:			

Test Case DA-01-PCMCIA F-TALON V2.43					
	Other not filled range:				
	0 source read errors, 0 destination read errors				
	***** FORENSIC TALON Serial No.: 15881 SESSION SETTINGS	Software: V2.43 *****			
	Operating Mode: Capture Address M	ode: LBA			
	Verify : HW-MD5 Speed	: PIO-MEDIUM			
	Connection : Direct				
	100% MIRROR COPY OF THE SUSPECT D	RIVE HAS BEEN			
	SUCCESSFULLY EXECUTED ON THE EVI	DENCE DRIVE!			
	Operator declined FULL and remainder Destination Drive erase! ************************************				
	Physical Characteristic	S			
	Drive Model: ST91002IA				
	Serial: 5MHUKZYH Cylinders Heads Sectors Total Sectors Drive Size 7936 16 63 8000001 3.8 GB Computed MD5 Value: 552858CF 807378F8 D5738F1D FF92CDBC				
	Skipped Sectors: 0				

	Physical Characteristics				
	Drive Model: WDC WD200EB-00CSF0				
	Serial: WD-WMAAV2431177				
	Cylinders Heads Sectors Total S	ectors Drive Size			
	Computed SHA=256 Value, NONE	10.0 GB			
	Skipped Sectors: 0				
	Settings: error skip				
	speed PIO-MEDIUM				
	1				
Results:					
	Assertion & Expected Result	Actual Result			
	AM-01 Source acquired using interface AI.	as expected			
	AM-02 Source is type DS.	as expected			
	AM-03 Execution environment is XE.	as expected			
	AM-04 A clone is created.	as expected			
	AM-06 All visible sectors acquired.	some sectors omitted			
	AM-08 All sectors accurately acquired.	some sectors differ			
	A0-11 A clone is created during acquisition.	as expected			
	AO-13 Clone created using interface AI.	as expected			
	AO-14 An unaligned clone is created.	as expected			
	AO-17 Excess sectors are unchanged.	as expected			
	AO-22 Tool calculates hashes by block.	option not tested			
	AO-23 Logged information is correct.	as expected			
	A0-24 Source is unchanged by acquisition.	not checked			
Analysis:	Expected results not achieved				

5.2.4 DA-01-SATA28

Case DA-01 Acquire a physical device using access interface AI to an clone. Assertions: AM-01 The tool uses access interface SRC-AI to access the digital AM-02 The tool acquires digital source DS. AM-03 The tool executes in execution environment XE. AM-04 If clone creation is specified, the tool creates a clone of digital source. AM-06 All visible sectors are acquired from the digital source. AM-08 All sectors acquired from the digital source are acquired AO-11 If requested, a clone is created during an acquisition of source. AO-13 A clone is created using access interface DST-AI to write clone device. AO-14 If an unaligned clone is created, each sector written to the accurately written to the same disk address on the clone that the same disk address on the clone the same disk a	unaligned
 Assertions: AM-01 The tool uses access interface SRC-AI to access the digital AM-02 The tool acquires digital source DS. AM-03 The tool executes in execution environment XE. AM-04 If clone creation is specified, the tool creates a clone of digital source. AM-06 All visible sectors are acquired from the digital source. AM-08 All sectors acquired from the digital source are acquired AO-11 If requested, a clone is created during an acquisition of source. AO-13 A clone is created using access interface DST-AI to write clone device. AO-14 If an unaligned clone is created, each sector written to the accurately written to the same disk address on the clone that the disk address on the clone the disk address on the clone that the disk address on the clone the disk a	al source.
occupied on the digital source. AO-17 If requested, any excess sectors on a clone destination de not modified. AO-22 If requested, the tool calculates block hashes for a spect size during an acquisition for each block acquired from the dig AO-23 If the tool logs any log significant information, the infor accurately recorded in the log file. AO-24 If the tool executes in a forensically safe execution enve the digital source is unchanged by the acquisition process.	of the accurately. a digital to the the clone is he sector levice are sified block rital source. formation is rironment,
Tester Name: brl	
Test Host: Athos	
Test Date: Thu Oct 18 13:07:27 2007	
Drives: src(07-SATA) dst (23-IDE) other (none)	
Source src hash (SHAI): < 655E9BDDB36A3F9C5C4CC8BF32B8C5B41AF9F52E > Setup: src hash (MD5): < 2EAF712DA080F66E30DEA00365B4579B > 156301488 total sectors (80026361856 bytes) Model (WDC WD800JD-32HK) serial # (WD-WMAJ91510044) N Start LBA Length Start C/H/S End C/H/S boot Partition 1 P 000000063 156280257 0000/001/01 1023/254/63 Boot 07 NTFS 2 P 00000000 00000000 0000/000/00 000 empty 6 3 P 00000000 0000000 0000/000/00 0000/000/	entry entry entry entry
Log Highlights: Destination setup Highlights: 195813072 sectors wiped with 23 Comparision of original to clone Drive Sectors compared: 156301488 Sectors match: 156301488 Sectors differ: 0 Bytes differ: 0 Diffs range Source (156301488) has 39511584 fewer sectors than destination Zero fill: 0 Src Byte fill (07): 0 Dst Byte fill (23): 39511584 Other fill: 0 Zero fill range: Src fill range: Src fill range: 156301488-195813071 Other not filled range: 0 source read errors, 0 destination read errors ***** FORENSIC TALON Serial No.: 15881 Software: V2.43 SESSION SETTINGS Operating Mode: Capture Address Mode: LBA	(195813072)

Test Case DA-	01-SATA28 F-TALON V2.43			
	Connection : Direct			
	100% MIRROR COPY OF THE SUSPECT D	RIVE HAS BEEN		
	SUCCESSFULLY EXECUTED ON THE EVIDENCE DRIVE!			
	Operator declined FULL and remainder Destination Drive erase!			
	**************************************	* * * * * * * * * * * * * * * * * * * *		
	Physical Characteristics			
	Drive Model: WDC WD800JD-32HKA0			
	Serial: WD-WMAJ91510044			
	Cylinders Heads Sectors Total S	ectors Drive Size		
	LOONDUI TO OS LOOSUL Computed MD5 Value, 2878712D AD908668	488 /4.3 GB 30DE3003 65E4570E		
	Skipped Sectors: 0	30DEA003 03643796		
	**************************************	* * * * * * * * * * * * * * * * * * * *		
	Destination Drive Devicel Characteristics			
	Drive Model: Maxtor 61100P0			
	Serial: L26YGV0G			
	Cylinders Heads Sectors Total S	ectors Drive Size		
	194259 16 63 195813	072 93.4 GB		
	Computed MD5 Value: 2EAF712D AD80F66E	30DEA003 65B4579B		
	Skipped Sectors: 0			
	Settings: error skip			
	speed UDMA-3			
Results:	Acception (Emerated Decult	Detwel Decult		
	Assertion & Expected Result	Actual Result		
	AM-01 Source acquired using interface AI.	as expected		
	AM-02 Source is type DS.	as expected		
	AM-03 Execution environment is XE.	as expected		
	AM-04 A CIONE IS Created.	as expected		
	AM-06 All VISIBle Sectors acquired.	as expected		
	AM-08 All sectors accurately acquired.	as expected		
	A0-11 A clone is created during acquisition.	as expected		
	A0-13 Clone Created Using Interlace AI.	as expected		
	A0-14 An unalighed clone is created.	as expected		
	A0-17 Excess sectors are unchanged.	as expected		
	A0-22 logged information is correct	as expected		
	A0-24 Source is unchanged by acquisition	as expected		
	I no 23 bource is unchanged by acquisition.	as expected		
Analysis.	Expected results achieved			

5.2.5 DA-01-SATA48

Test Case DA-01-SATA48 F-TALON V2.43				
Case Summary:	DA-01 Acquire a physical device using access interface AI to an unaligned clone.			
Assertions:	 AM-01 The tool uses access interface SRC-AI to access the digital source. AM-02 The tool acquires digital source DS. AM-03 The tool executes in execution environment XE. AM-04 If clone creation is specified, the tool creates a clone of the digital source. AM-06 All visible sectors are acquired from the digital source. AM-08 All sectors acquired from the digital source are acquired accurately. AO-11 If requested, a clone is created during an acquisition of a digital source. AO-13 A clone is created using access interface DST-AI to write to the clone device. AO-14 If an unaligned clone is created, each sector written to the clone is accurately written to the same disk address on the clone that the sector occupied on the digital source. AO-17 If requested, any excess sectors on a clone destination device are not modified. AO-22 If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source. AO-23 If the tool logs any log significant information, the information is accurately recorded in the log file. AO-24 If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process. 			
Tester Name:	brl			
Test Host:	Athos			
Test Date:	Fri Oct 19 11:38:43 2007			
Drives:	src(OD-SATA) dst (OB-SATA) other (none)			
Setup:	<pre>src hash (MD5): < DAADGOEG/GIESSF2285F3262A/SD41D228C13// > src hash (MD5): < 1FA7C3CBE60EB9E89863DED2411E40C9 > 488397168 total sectors (250059350016 bytes) 30400/254/63 (max cyl/hd values) 30401/255/63 (number of cyl/hd) Model (WDC WD2500JD-22F) serial # (WD-WMAEH2678216) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 488375937 0000/001/01 1023/254/63 Boot 07 NTFS 2 P 00000000 00000000 0000/000/00 0000/000/00 00</pre>			
Highlights:	488397168 sectors wiped with B Comparision of original to clone Drive Sectors compared: 488397168 Sectors match: 488397168 Sectors differ: 0 Bytes differ: 0 Diffs range 0 source read errors, 0 destination read errors ***** FORENSIC TALON Serial No.: 15881 Software: V2.43 ***** SESSION SETTINGS Operating Mode: Capture Address Mode: LBA Verify : HW-MD5 Speed : UDMA-4 Connection : Direct 100% MIRROR COPY OF THE SUSPECT DRIVE HAS BEEN SUCCESSFULLY EXECUTED ON THE EVIDENCE DRIVE! No Destination Drive erase required! ************************************			
	Serial: WD-WMAEH20/8216 Cylinders Heads Sectors Total Sectors Drive Size			

Test Case DA-	01-SATA48 F-TALON V2.43			
	484521 16 63 488397	168 232.9 GB		
	Computed MD5 Value: 1FA7C3CB E60EB9E8	9863DED2 411E40C9		
	Skipped Sectors: 0			
	**************************** DESTINATION DRIVE	* * * * * * * * * * * * * * * * * * * *		
	Physical Characteristics			
	Drive Model: WDC WD2500JD-22FYB0			
	Serial: WD-WMAEH2677545			
	Cylinders Heads Sectors Total S	ectors Drive Size		
	484521 16 63 488397	168 232.9 GB		
	Computed SHA-256 Value: NONE			
	Settings: error skip			
	speed IDMA-5			
	Speed Obras S			
Results:				
	Assertion & Expected Result	Actual Result		
	AM-01 Source acquired using interface AI.	as expected		
	AM-02 Source is type DS.	as expected		
	AM-03 Execution environment is XE.	as expected		
	AM-04 A clone is created.	as expected		
	AM-06 All visible sectors acquired.	as expected		
	AM-08 All sectors accurately acquired.	as expected		
	AO-11 A clone is created during acquisition.	as expected		
	AO-13 Clone created using interface AI.	as expected		
	AO-14 An unaligned clone is created.	as expected		
	AO-17 Excess sectors are unchanged.	as expected		
	AO-22 Tool calculates hashes by block.	option not tested		
	AO-23 Logged information is correct.	as expected		
	A0-24 Source is unchanged by acquisition.	as expected		
Analysis:	Expected results achieved			

5.2.6 DA-01-USB

Test Case DA-01-USB F-TALON V2.43				
Case Summary:	DA-01 Acquire a physical device using access interface AI to an unaligned clone.			
Assertions:	 AM-01 The tool uses access interface SRC-AI to access the digital source. AM-02 The tool acquires digital source DS. AM-03 The tool executes in execution environment XE. AM-04 If clone creation is specified, the tool creates a clone of the digital source. AM-06 All visible sectors are acquired from the digital source. AM-08 All sectors acquired from the digital source are acquired accurately. AO-11 If requested, a clone is created during an acquisition of a digital source. AO-13 A clone is created using access interface DST-AI to write to the clone device. AO-14 If an unaligned clone is created, each sector written to the clone is accurately written to the same disk address on the clone that the sector occupied on the digital source. AO-17 If requested, any excess sectors on a clone destination device are not modified. AO-22 If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source. AO-23 If the tool logs any log significant information, the information is accurately recorded in the log file. AO-24 If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process. 			
Tester Name:	brl			
Test Host:	Athos			
Test Date:	Wed Oct 31 15:30:12 2007			
Drives:	src(D5-THUMB) dst (22-SATA) other (none)			
Source Setup:	<pre>src hash (SHA1): < D68520EF/4A336E49DCCF83815E/B08FDC53E38A > src hash (MD5): < C843593624B2B3B878596D8760B19954 > 505856 total sectors (258998272 bytes) Model (usb2.0Flash Disk) serial # () N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 778135908 1141509631 0357/116/40 0357/032/45 Boot 72 other 2 P 168689522 1936028240 0288/115/43 0367/114/50 Boot 65 other 3 P 1869881465 1936028192 0366/032/33 0357/032/43 Boot 79 other 4 P 2885681152 000055499 0372/097/50 0000/010/00 Boot 0D other 1 1141509631 sectors 584452931072 bytes 2 1936028240 sectors 991246458880 bytes 3 1936028192 sectors 991246434304 bytes 4 000055499 sectors 28415488 bytes</pre>			
Log Highlights:	Destination setup 156301488 sectors wiped with 22 Comparision of original to clone Drive Sectors compared: 505856 Sectors match: 505856 Sectors differ: 0 Bytes differ: 0 Diffs range Source (505856) has 155795632 fewer sectors than destination (156301488) Zero fill: 0 Src Byte fill (D5): 0 Dst Byte fill (22): 155795632 Other fill: 0 Zero fill range: 0 Src fill range: S05856-156301487 Other fill range: 505856-156301487 Other not filled range: 0 source read errors, 0 destination read errors ***** FORENSIC TALON Serial No.: 15881 Software: V2.43 *****			

Test Case DA-	01-USB F-TALON V2.43		
	SESSION SETTINGS		
	Operating Mode: Capture Address M	ode: LBA	
	Verify : HW-MD5 Speed	: PIO-AUTO	
	Connection : Direct		
	100% MIRROR COPY OF THE SUSPECT D	RIVE HAS BEEN	
	SUCCESSFULLY EXECUTED ON THE EVIDENCE DRIVE!		
	Operator declined FULL and remainder Destination Drive erase!		

	Physical Characteristics		
	Drive Model: CRUCIAL usb2.0Flash Disk		
	Serial:		
	Cylinders Heads Sectors Total S	ectors Drive Size	
	501 16 63 505856	U.2 GB	
	Computed MD5 Value: C8435936 24B2B3B8	/8596D8/ 60B19954	
	Skipped Sectors: U		
	DESTINATION DRIVE		
	Physical Characteristic	5	
	Sorial: 5 TUCO731		
	Serial: 5JVCQ/31 Culindera Haada Sectora Matal Sectora Drive Size		
	155061 16 63 156301	188 74 5 CB	
	Computed SHA-256 Value: NONE	-00 / OD	
	Skipped Sectors: 0		
	Settings: error skip		
	speed PIO-AUTO		
	1		
Results:			
	Assertion & Expected Result	Actual Result	
	AM-01 Source acquired using interface AI.	as expected	
	AM-02 Source is type DS.	as expected	
	AM-03 Execution environment is XE.	as expected	
	AM-04 A clone is created.	as expected	
	AM-06 All visible sectors acquired.	as expected	
	AM-08 All sectors accurately acquired.	as expected	
	A0-11 A clone is created during acquisition.	as expected	
	AO-13 Clone created using interface AI.	as expected	
	AO-14 An unaligned clone is created.	as expected	
	A0-17 Excess sectors are unchanged.	as expected	
	AO-22 Tool calculates hashes by block.	option not tested	
	AO-23 Logged information is correct.	as expected	
	A0-24 Source is unchanged by acquisition.	as expected	
1		· · ·	
Analvsis:	Expected results achieved		

5.2.7 DA-01-XUSB

Test Case DA-01-XUSB F-TALON V2.43					
Case Summary:	DA-01 Acquire a physical device using access interface AI to an unaligned clone.				
Assertions:	 AM-01 The tool uses access interface SRC-AI to access the digital source. AM-02 The tool acquires digital source DS. AM-03 The tool executes in execution environment XE. AM-04 If clone creation is specified, the tool creates a clone of the digital source. AM-06 All visible sectors are acquired from the digital source. AM-08 All sectors acquired from the digital source are acquired accurately. AO-11 If requested, a clone is created during an acquisition of a digital source. AO-13 A clone is created using access interface DST-AI to write to the clone device. AO-14 If an unaligned clone is created, each sector written to the clone is accurately written to the same disk address on the clone that the sector occupied on the digital source. AO-17 If requested, any excess sectors on a clone destination device are not modified. AO-22 If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source. AO-23 If the tool logs any log significant information, the information is accurately recorded in the log file. AO-24 If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process. 				
Tester Name:	brl				
Test Host:	Paladin				
Test Date:	Wed Nov 14 10:16:27 2007				
Drives:	<pre>src(09-LAP) dst (F9) other (none)</pre>				
Source	<pre>src hash (SHA1): < 118459903C8BB9E6D668DBFDD5D54832BE88E029 ></pre>				
Log	195371568 total sectors (100030242816 bytes) 12160/254/63 (max cyl/hd values) 12161/255/63 (number of cyl/hd) Model (A) serial # (5MH0KZ) This drive has a DCO of 8000001 sectors The hashes with DCO in place are: MD5: 00A81DE5822E84E9606DEF68D9D17367 SHA1: 7A247D230345EFC1A412586A83AA6AD66266D2B1				
Log Highlights:	Destination setup 40188960 sectors wiped with F9 Comparision of original to clone Drive Sectors compared: 8000001 Sectors match: 8000001 Sectors differ: 0 Bytes differ: 0 Diffs range Source (8000001) has 32188959 fewer sectors than destination (40188960) Zero fill: 0 Src Byte fill (09): 0 Dst Byte fill (F9): 32188959 Other fill: 0 Zero fill range: 0 Src fill range: Src fill range: S00001-40188959 Other fill range: 800001-40188959 Other fill range: 0 Source read errors, 0 destination read errors No Log file found (da-01-xusb) Settings: error skip				

Test Case DA-01-XUSB F-TALON V2.43		
	speed n/a	
Results:		
	Assertion & Expected Result	Actual Result
	AM-01 Source acquired using interface AI.	as expected
	AM-02 Source is type DS.	as expected
	AM-03 Execution environment is XE.	as expected
	AM-04 A clone is created.	as expected
	AM-06 All visible sectors acquired.	as expected
	AM-08 All sectors accurately acquired.	as expected
	AO-11 A clone is created during acquisition.	as expected
	AO-13 Clone created using interface AI.	as expected
	AO-14 An unaligned clone is created.	as expected
	AO-17 Excess sectors are unchanged.	as expected
	AO-22 Tool calculates hashes by block.	option not tested
	AO-23 Logged information is correct.	as expected
	AO-24 Source is unchanged by acquisition.	as expected
		·
Analysis:	Expected results achieved	

5.2.8 DA-04

Case Summary: Assertions: AM-01 The tool uses access interface SRC-AI to access the digital source AM-02 The tool acquires digital source DS. AM-03 The tool executes in execution environment XE. AM-04 If clone creation is specified, the tool creates a clone of the digital source. AM-06 All visible sectors are acquired from the digital source. AM-08 All sectors acquired from the digital source are acquired accurat	ce. cely. cal clone ie is		
Assertions: AM-01 The tool uses access interface SRC-AI to access the digital source AM-02 The tool acquires digital source DS. AM-03 The tool executes in execution environment XE. AM-04 If clone creation is specified, the tool creates a clone of the digital source. AM-06 All visible sectors are acquired from the digital source. AM-08 All sectors acquired from the digital source are acquired accurat	clone clone ie is		
 A0-11 If requested, a clone is created during an acquisition of a digit source. A0-13 A clone is created using access interface DST-AI to write to the device. A0-14 If an unaligned clone is created, each sector written to the clone accurately written to the same disk address on the clone that the sector occupied on the digital source. A0-19 If there is insufficient space to create a complete clone, a trun clone is created using all available sectors of the clone device. A0-20 If a truncated clone is created, the tool notifies the user. A0-22 If requested, the tool calculates block hashes for a specified bl size during an acquisition for each block acquired from the digital source accurately recorded in the log file. A0-24 If the tool executes in a forensically safe execution environment digital source is unchanged by the acquisition process. 	or .ock nrce. n is c, the		
Tester brl			
Name:			
Test Host: Aramis			
Test Date: Thu Oct 25 U2:30:54 2007			
Source src hash (SHA256) · <			
Setup: FBF3AA21489653D880FFAE71449A9F7E8EE4F56A6C3BF58A3A3FFB13203F1B1D > src hash (SHA1): 15CAA1A307271160D8372668BF8A03FC45A51CC9 > src hash (MD5): 0A6A8EF78BDC14E2026710D8CCB5607C > 78125000 total sectors (4000000000 bytes) 65534/015/63 (max cyl/hd values) 65535/016/63 (number of cyl/hd) IDE disk: Model (WDC WD400BB-75JHC0) serial # (WD-WMAMC4658355) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000000 00000000 0000/000/00 0000/000/00 00 empty entry 3 P 00000000 00000000 0000/000/00 0000/000/00 00 empty entry 4 P 00000000 00000000 0000/000/00 0000/000/00 00 empty entry 1 078107967 sectors 39991279104 bytes	<pre>FBF3AA21489653D880FFAE71449A9F7E8EE4F56A6C3BF58A3A3FFB13203F1B1D > src hash (SHA1): < 15CAA1A307271160D8372668BF8A03FC45A51CC9 > src hash (MD5): < 0A6A8EF78BDC14E2026710D8CCB5607C > 78125000 total sectors (4000000000 bytes) 65534/015/63 (max cyl/hd values) 65535/016/63 (number of cyl/hd) IDE disk: Model (WDC WD400BB-75JHC0) serial # (WD-WMAMC4658355) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 078107967 0000/001/01 1023/254/63 Boot 07 NTFS 2 P 00000000 00000000 0000/000/00 0000/000/00 00</pre>		
Log Highlights: Destination setup 60030432 sectors wiped with AA No Log file found (da-04) Screen message: Error Capturing Drive! Cannot fit data to target drive! Settings: error skip speed UDMA-5			
Results:			
Assertion & Expected ResultActual ResultAM-01 Source acquired using interface AI.as expectedAM-02 Source is type DS.as expectedAM-03 Execution environment is XE.as expectedAM-04 A clone is created.as expectedAM-06 All visible sectors acquired.as expectedAM-08 All sectors accurately acquired.as expectedAO-11 A clone is created during acquisition.as expected			
AO-13 Clone created using interface AI. as expected			

Test Case DA	A-04 F-TALON V2.43	
	AO-14 An unaligned clone is created.	as expected
	AO-19 Truncated clone is created.	as expected
l	AO-20 User notified that clone is truncated.	as expected
	AO-22 Tool calculates hashes by block.	option not tested
	AO-23 Logged information is correct.	as expected
	AO-24 Source is unchanged by acquisition.	as expected
l		
Analysis:	Expected results achieved	

5.2.9 DA-06-ATA28

Case DA-06 Acquire a physical device using access interface AI to an image file. Summary: Assertions: AM-01 The tool uses access interface SRC-AI to access the digital source. AM-03 The tool acquires digital source DS. AM-06 All visible sectors are acquired from the digital source. AM-06 All visible sectors are acquired from the digital source. AM-06 All visible sectors are acquired from the digital source. AM-06 All visible sectors are acquired from the digital source. AM-06 All visible sectors are acquired from the digital source. AM-06 All visible sectors are acquired from the digital source. AM-06 All visible sectors are acquired from the digital source. AM-06 If the tool creates an image file, the data represented by the image file is the same as the data acquired by the tool. A0-05 If the tool creates a multi-file image of a requested size. A0-02 If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source. A0-23 If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process. Tester Name: Test Most: Athos Test Most: Athos Test Athos Test Athos Ference Mo5 hashes, Win size: 666238976 (bytes) 1 0 - 666238976 - 1332477951 34CASE7F07A3E7650F3A3FFB13203F1ELD > sr hash (SHA1): < 15CAHA3072711600B372650F3A3AFFB13203F1ELD > sr hash (SHA1): < 15CAHA307271050B372650F3A3AFFB13203F1ELD > sr hash (SHA1): < 15CAHA3072711607272650F3A3072653850A15 - 2 666238976 - 1332477951 34CASE7F07A3E7650F3255021560072 - 3 132477952 - 1998715927 DC8EF08B34159DC4922992AE634BB - 59 38641860068 - 39308099536 46057F359292792C59325592056672A3 - 60 3930809954 - 3937433559 IDCCC202AF32310931592 - 2 666238976 - 1332477951 34CASE7F07A3E7650F3A319EDAA - 61 3997433550 - 40640577355 EREFCA702Z44102341B99B105E0C7ED - 78122000 total sectors (400000000 0000/000/00 0000700070 00 empty entry 3 P 00000000 00000000000000000000000000
Assertions: AM-01 The tool uses access interface SRC-A1 to access the digital source. AM-03 The tool executes in execution environment XE. AM-06 All visible sectors are acquired from the digital source. AM-06 All visible sectors are acquired from the digital source. AM-06 All visible sectors are acquired from the digital source. AM-06 All sectors acquired from the digital source are acquired accurately. AO-01 If the tool creates an image file, the data represented by the image file is the same as the data acquired by the tool. AO-05 If the tool creates a multi-file image of a requested size then all the individual files shall be no larger than the requested size. AO-02 If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source. AO-23 If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process. Tester brl Name: athos Tester Med Oct 31 12:30:07 2007 Drives: src(41) dst (none) other (22-SATA) Source src(41) dst (none) other (22-SATA) Setup: src hash (SHA): < 150ALA377T1160PA37266BFRA03FC45A51CC9 > src hash (MD5): < 0A6A8E778BDC14E2026710D8CC5507C > src hash (MD5): < 0A6A8E778BDC14E2026710D8CC5507C > src hash (MD5): < 0A6A8E778BDC14E2026710D8CC5502C0F33380902 - 2 666238976 - 133247951 34CA5E7TP7A5BF765C2C80F33380902 - 3 1332477952 - 1998716927 DC8EF08B3A15F0E02C30F33380902 - 3 1332477952 - 1998716927 DC8EF08B3A15SDC1525922E6672A3 - 60 3930809954 - 397433559 IDCCF022AF32A1D33559A13A5EDAA - 61 3974333560 - 4064077355 EBEA6A702E441CD341BD9B105E0C7ED - 78125000 total sectors (4000000000 00000000000000000000000000
<pre>the individual files shall be no larger than the requested size. A0-22 If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source. A0-23 If the tool logs any log significant information, the information is accurately recorded in the log file. A0-24 If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process.</pre> Test Date: Wed Oct 31 12:30:07 2007 Drives: Src(41) dst (none) other (22-SATA) Source Src hash (SHA256): < Setup: Src hash (SHA256): < Setup: Src hash (SHA256): < Setup: Src hash (SHA1): < 15CAALA307271160D8372668BF8A03GrC45A51CC9 > src hash (SHA1): < 15CAALA307271160D8372668BF8A03GrC45A51CC9 > src hash (MD5): < 0A6A8EF78BDC14E2026710D8CCB5607C > Reference MD5 hashes, Win size: 666238976 (bytes) 1 0 - 666238976 - 1332477951 34CA57FD7A3EF769C2C80FB333B5D92 - 3 1332477952 - 1998716927 DC8EF08B4A158DC1492A992AEC634BB - 60 39308099584 - 39974338559 1DCCFCD2AFA92A19933D539A13A9EDA - 61 39974338560 - 40640577535 EE8E6AA7022H41CD341BD9B109E0C7ED - 78125000 total sectors (40000000000 bytes) 65534/015/63 (number of cy1/hd) IDE disk: Model (WDC WD400B=75JHC0) serial # (WD-WMAMC4658355) N Start LBA Length Start C/H/S End C/H/S bot Partition type 1 P 00000060 000000000 0000/00//01 002/254/63 Bot 07 NTFS 2 P 00000000 00000000 0000/00//01 0002/254/63 Bot 07 NTFS 2 P 00000000 00000000 0000/00//00 000 empty entry 3 P 00000000 00000000 0000/00//00 000 empty entry 4 P 00000006 000000000 0000/00//00 000 empty entry 1 078107967 sectors 39991279104 bytes Log ***** FORENSIC TALON Serial No.: 15881 Software; V2.43 *****
Tester Name: brl Test Host: Athos Test Date: Wed Oct 31 12:30:07 2007 Drives: src(41) dst (none) other (22-SATA) Source src hash (SHA256): < Setup: FPF3AA21489653D880FFAE71449A9F7E8EE4F56A6C3BF58A3A3FFB13203F1B1D > src hash (SHA1): < 15CAA1A307271160D8372668BF8A03FC45A51CC9 > src hash (MD5): < OA6A8EF78BDC14E2026710D8CCB5607C > Reference MD5 hashes, Win size: 666238976 (bytes) 1 0 - 666238975 46E843537F40B1931C2859B4E36DA015 - 2 666238976 - 1332477951 34CA5E7FD7A3EF769C280FE3338D9D2 - 3 1332477952 - 1998716927 DC8EF08B34A158DCD492A992AEC634BB - 59 38641860608 - 39308099583 646D67FA5B92F92C5F325592D66672A3 - 60 39308099584 - 39974338559 1DCCFCD2AFA92A1D933D539A13A9EDAA - 61 39974338560 - 40640577535 EE8E6AA702E441CD341BD9B109E0C7ED - 78125000 total sectors (4000000000 bytes) 65534/015/63 (number of cyl/hd) IDE disk: Model (WDC WD400BE-75JHCO) serial # (WD-WMAMC4658355) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 00000006 000000000 0000/000/00 0000/000/
Test Host: Athos Test Date: Wed Oct 31 12:30:07 2007 Drives: src (41) dst (none) other (22-SATA) Source src hash (SHA256): < Setup: FBF3AA21489653D880FFAE71449A9F7E8EE4F56A6C3BF58A3A3FFB13203F1B1D > src hash (SHA216): < 15CAA1A307271160D8372668BF8A03FC45A51CC9 > src hash (SHA21): < 15CAA1A307271160D82CB5067C > Reference MD5 hashes, Win size: 666238976 (bytes) 1 0 - 666238975 46E843537F460B1931C28594E36DA015 - 2 666238976 - 1332477951 34CA5E7FD7A3EF769C2C80FE3338D9D2 - 3 132477952 - 1998716927 DC8EF08B34A158DCD492A992AEC634BB - 59 38641860608 - 39308099583 646D67FA5B92F92C5F325592D66672A3 - 60 39308099584 - 3974338559 1DCCFCD2AFA92A1D933D539A13A9EDAA - 61 39974338560 - 40640577535 EE86EAA702E441CD341BD9B109E0C7ED - 78125000 total sectors (4000000000 bytes) 65534/015/63 (max cyl/hd values) 65535/016/63 (number of cyl/hd) IDE disk: Model (WDC WP400BB-75JHC0) serial # (WD-WMAMC4658355) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 00000000 000000000 0000/000/00 0000/000/00 2 P 00000000 000000000 0000/000/00 0000/000/00 2 P 000000000 000000000000000000/000/00
Test Date: Wed Oct 31 12:30:07 2007 Drives: src (41) dst (none) other (22-SATA) Source src hash (SHA256): Setup: FBF3AA21489653D880FFAE71449A9F7E8EE4F56A6C3BF58A3A3FFB13203F1B1D > src hash (SHA1): < 15CAA1A307271160D8372668BF8A03FC45A51CC9 > src hash (MD5): < 0A6A8EF78BDC14E2026710D8CCB5607C > Reference MD5 hashes, Win size: 666238976 (bytes) 1 0 - 666238975 46E843537F40B1931C2859B4E36DA015 - 2 666238976 - 1332477951 34CA5E7FD7A3EF769C2C80FE3338D9D2 - 3 1332477952 - 1998716927 DC8EF08B34A158DCD492A992AEC634BB - 59 38641860608 - 39308099583 646D67FA5B92F92C5F325592D66672A3 - 60 39308099584 - 39974338559 1DCCFCD2AFA92A1D933D539A13A9EDAA - 61 39974338560 - 40640577535 EE8E6AA702E441CD341BD9B109E0C7ED - 78125000 total sectors (4000000000 bytes) 65534/015/63 (max cyl/hd values) 78125000 total sectors (40000000000 00
Drives: src(41) dst (none) other (22-SATA) Source src hash (SHA256): < Setup: FBF3AA21489653D880FFAE71449A9F7E8EE4F56A6C3BF58A3A3FFB13203F1B1D > src hash (SHA1): 15CAA1A307271160D8372668BF8A03FC45A51CC9 > src hash (MD5): 0A6A8EF78BDC14E2026710D8CCB5607C > Reference MD5 hashes, Win size: 666238976 (bytes) 1 0 - 666238975 46E843537F40B1931C2859B4E36DA015 - 2 666238976 - 1332477951 34CA5E7FD7A3EF769C2C80FE3338D9D2 - 3 1332477952 - 1998716927 DC8EF08B34A158DCD492A992AEC634BB - 5 58441860608 - 39308099583 646D67FA5B92F92C5F325592D66672A3 - 60 39308099584 - 39974338559 1DCCFCD2AFA92A1D933D539A13A9EDAA - 61 39974338560 - 40640577535 EE8E6AA702E441CD341BD9B109E0C7ED - 78125000 total sectors (4000000000 bytes) 65535/015/63 (max cyl/hd values) 65535/015/63 (nax cyl/hd values) 65535/016/63 (number of cyl/hd) IDE disk: Model (WDC WD400BE-75JHC0) serial # (WD-WMAMC4658355) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 000000000 000000000 0000/000/00 00 empty entry 3
Source src hash (SHA256): < Setup: FBF3AA21489653D880FFAE71449A9F7E8EE4F56A6C3BF58A3A3FFB13203F1B1D > src hash (SHA1): < 15CAA1A307271160D8372668BF8A03FC45A51CC9 > src hash (MD5): < 0A6A8EF78BDC14E2026710D8CCB5607C > Reference MD5 hashes, Win size: 666238976 (bytes) 1 0 - 666238975 46E843537F40B1931C2859B4E36DA015 - 2 666238976 - 1332477951 34CA5E7FD7A3EF769C2C80FE3338D9D2 - 3 1332477952 - 1998716927 DC8EF08B34A158DCD492A992AEC634BB - 59 38641860608 - 39308099583 646D67FA5B92F92C5F325592D66672A3 - 60 39308099584 - 39974338559 1DCCFCD2AFA92A1D933D539A13A9EDAA - 61 39974338560 - 40640577535 EE8E6AA702E441cD341BD9B109E0C7ED - 78125000 total sectors (4000000000 bytes) 65534/015/63 (number of cyl/hd) IDE disk: Model (WDC WD400BB-75JHC0) serial # (WD-WMAMC4658355) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 00000000 00000000 0000/000/00 0000/000/00 00
Reference MD5 hashes, Win size: 666238976 (bytes) 1 0 - 666238975 46E843537F40E1931C2859B4E36DA015 - 2 666238976 - 1332477951 34CA5E7FD7A3EF769C2C80FE3338D9D2 - 3 1332477952 - 1998716927 DC8EF08B34A158DCD492A992AEC634BB - 59 38641860608 - 39308099583 646D67FA5B92F92C5F325592D66672A3 - 60 39308099584 - 39974338559 1DCCFCD2AFA92A1D933D539A13A9EDAA - 61 39974338560 - 40640577535 EE8E6AA702E441CD341BD9B109E0C7ED - 78125000 total sectors (4000000000 bytes) 65534/015/63 (max cyl/hd values) 65535/016/63 (number of cyl/hd) IDE disk: Model (WDC WD400BB-75JHC0) serial # (WD-WMAMC4658355) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 00000000 00000000 0000/000/00 0000/000/00 00 0000000 00000000 0000/000/00 0000/000/00 00 empty entry 3 P 00000000 0000000 0000/000/00 0000/000/
60 39308099584 - 39974338559 1DCCFCD2AFA92A1D933D539A13A9EDAA - 61 39974338560 - 40640577535 EE8E6AA702E441CD341BD9B109E0C7ED - 78125000 total sectors (4000000000 bytes) 65534/015/63 (max cyl/hd values) 65535/016/63 (number of cyl/hd) IDE disk: Model (WDC WD400BB-75JHC0) serial # (WD-WMAMC4658355) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 00000000 0000/000/00 00 empty entry 3 P 00000000 0000/000/00 0000/000/00 00 empty entry 3 P 00000000 0000/000/00 0000/000/00 00 empty entry 4 P 00000000 0000/000/00 0000/000/00 00 empty entry 1 078107967 sectors 39991279104 bytes
IDE disk: Model (WDC WD400BB-75JHC0) serial # (WD-WMAMC4658355) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 00000063 078107967 0000/001/01 1023/254/63 Boot 07 NTFS 2 P 00000000 00000000 0000/000/00 0000/000/00 3 P 00000000 00000000 0000/000/00 0000/000/00 4 P 00000000 00000000 0000/000/00 0000/000/00 000800000 00000000 0000/000/00 0000/000/
Log ***** FORENSIC TALON Serial No.: 15881 Software: V2.43 *****
HIGHIIGHUS: SESSION SETTINGS Operating Mode: DD Img(650M) Address Mode: LBA Verify : MD5-File Speed : PIO-AUTO
Connection : Direct

Physical Characteristics
Drive Model: WDC WD400BB-/5JHC0 Serial: WD-WMAMC4658355
Cylinders Heads Sectors Total Sectors Drive Size 77504 16 63 78125000 37.3 GB

Physical Characteristics
Drive Model: ST380013AS Serial: 5JVC0731
Cylinders Heads Sectors Total Sectors Drive Size

Test Case DA-	-06-ATA28 F-TALON V2.43	
	Skipped Sectors: 0 Recovered Sectors: 0	
	Block Hashes	
	06ATA28.001: From:0, To:1332521, Size:1301248, MD5	Value:
	46E843537F40B1931C2859B4E36DA015	
	06ATA28.002: From:1301248, To:2633769, Size:130124	8, MD5 Value:
	34CA5E7FD7A3EF769C2C80FE3338D9D2	
	06ATA28.003: From:2602496, To:3935017, Size:130124	8, MD5 Value:
	DC8EF08B34A158DCD492A992AEC634BB	
	06ATA28.059: From:75472384, To:76804905, Size:1301	248, MD5 Value:
	646D67FA5B92F92C5F325592D66672A3	
	UDATAZO.UDU: FTOM:/0//3032, TO:/0100153, SIZE:13UL	240, MDS Value:
	IDCCFCDZAFA9ZAID935D559AI5A9EDAA Обладо 20 061. Бион. 7007400 по.70407401 сідо. 5010	0 MDE Volue
	UCAIA20.001: FIOM:/00/4000, IO:/940/401, SIZE:JUIZ	0, MDS Value:
	Sottings, orror skip	
	speed PIO-AUTO	
	Speca 110 moro	
Results:		
100012001	Assertion & Expected Result	Actual Result
	AM-01 Source acquired using interface AI.	as expected
	AM-02 Source is type DS.	as expected
	AM-03 Execution environment is XE.	as expected
	AM-05 An image is created on file system type FS.	as expected
	AM-06 All visible sectors acquired.	as expected
	AM-08 All sectors accurately acquired.	as expected
	AO-01 Image file is complete and accurate.	as expected
	AO-05 Multifile image created.	as expected
	AO-22 Tool calculates hashes by block.	as expected
	AO-23 Logged information is correct.	as expected
	AO-24 Source is unchanged by acquisition.	as expected
Applucies	Expected results achieved	

5.2.10 DA-06-ATA48

Test Case DA-0	Test Case DA-06-ATA48 F-TALON V2.43		
Case Summary:	DA-06 Acquire a physical device using access interface AI to an image file.		
Assertions:	AM-01 The tool uses access interface SRC-AI to access the digital source. AM-02 The tool acquires digital source DS.		
	AM-03 The tool executes in execution environment XE.		
	AM-05 If image file creation is specified, the tool creates an image file		
	AM-06 All visible sectors are acquired from the digital source		
	AM-08 All sectors acquired from the digital source are acquired accurately.		
	AO-01 If the tool creates an image file, the data represented by the image		
	file is the same as the data acquired by the tool.		
	A0-05 If the tool creates a multi-file image of a requested size then all		
	AO-22 If requested, the tool calculates block hashes for a specified block		
	size during an acquisition for each block acquired from the digital source.		
	AO-23 If the tool logs any log significant information, the information is		
	ACCURATELY RECORDED IN THE LOG ILLE.		
	the digital source is unchanged by the acquisition process.		
The state of News	11		
Test Host.	Aramis		
Test Date:	Fri Oct 26 00:41:27 2007		
Drives:	<pre>src(4C) dst (none) other (28-IDE)</pre>		
Source	<pre>src hash (SHA1): < 8FF620D2BEDCCAFE8412EDAAD56C8554F872EFBF ></pre>		
secup:	STC MASH (MD5): < DIOF/05B50D4CEBA2DI5IIC0IF9FB302 >		
	Reference MD5 hashes, Win size: 3997433856 (bytes)		
	1 0 - 3997433855 A24BA8F8CED07E07515A6FF70C21DC83 -		
	2 3997433856 - 7994867711 5A3641B34D935EE37158329A81BA7D34 - 3 7994867712 - 11992301567 296ab048F52814a74b21FCF0DC7F7ac3 -		
	· · ·		
	49 191876825088 - 195874258943 C3D90AF2D73937250E97439F82EBA0EC -		
	50 195874258944 - 199871692799 DFEC8704F5C94CB4674C7B29762009AF -		
	51 199871692800 - 200049647615 A7FD8741B79971412099A34AA5D027A4 - 390721968 total sectors (200049647616 bytes)		
	24320/254/63 (max cyl/hd values)		
	24321/255/63 (number of cyl/hd)		
	IDE disk: Model (WDC WD2000JB-00KFA0) serial # (WD-WMAMR1031111)		
	1 P 000000063 390700737 0000/001/01 1023/254/63 Boot 07 NTFS		
	2 P 00000000 00000000 0000/000/00 0000/00 00		
	3 P 00000000 00000000 0000/00 0000/00 0000/00 00		
	4 P 00000000 00000000 0000/000/00 0000/000/00 00		
Log Highlights:	***** FORENSIC TALON Serial No.: 15881 Software: V2.43 ***** SESSION SETTINGS		
	Operating Mode: DD Img(4GB) Address Mode: LBA		
	Verily : MDS-File Speed : UDMA-4 Connection : Direct		
	AN EXACT DD IMAGE FILE COPY OF THE SUSPECT DRIVE HAS		
	BEEN SUCCESSFULLY EXECUTED ON THE EVIDENCE DRIVE!		

	Drive Model: WDC WD2000JB-00KFA0		
	Serial: WD-WMAMR1031111		
	Cylinders Heads Sectors Total Sectors Drive Size		
	38/621 16 63 390/21968 186.3 GB		
	Physical Characteristics		
	Drive Model: WDC WD2500JB-00GVC0		
	Serial: WD-WCAL/8181051 Cylinders Heads Sectors Total Sectors Drive Size		
	484521 16 63 488397168 232.9 GB		
	Skipped Sectors: 0 Recovered Sectors: 0		

Test Case DA-0	06-ATA48 F-TALON V2.43	
	Block Hashes 06ATA48.001: From:0, To:7926229, Size:7807488, MD5 A24BA8F8CED07E07515A6FF70C21DC83 06ATA48.002: From:7807488, To:15733717, Size:78074 5A3641B34D935EE37158329A81BA7D34 06ATA48.003: From:15614976, To:23541205, Size:7807 296AB048E52814A74B21ECE0DC7F7AC3 06ATA48.049: From:374759424, To:382685653, Size:78 C3D90AF2D73937250E97439F82EBA0EC 06ATA48.050: From:382566912, To:390493141, Size:78 DFEC8704F5C94CB4674C7B29762009AF 06ATA48.051: From:390374400, To:398300629, Size:34 A7F08741B79971412099A34AA5D027A4 Settings: error skip speed UDMA-5	Value: 88, MD5 Value: 488, MD5 Value: 07488, MD5 Value: 07488, MD5 Value: 7568, MD5 Value:
Results:		
	Assertion & Expected Result	Actual Result
	AM-01 Source acquired using interface AI.	as expected
	AM-02 Source is type DS.	as expected
	AM-03 Execution environment is XE.	as expected
	AM-05 An image is created on file system type FS.	as expected
	AM-06 All visible sectors acquired.	as expected
	AM-08 All sectors accurately acquired.	as expected
	AO-01 Image file is complete and accurate.	as expected
	AO-05 Multifile image created.	as expected
	AO-22 Tool calculates hashes by block.	as expected
	AO-23 Logged information is correct.	as expected
	AO-24 Source is unchanged by acquisition.	as expected
Analysis:	Expected results achieved	

5.2.11 DA-06-SATA28

Test Case DA-	-06-SATA28 F-TALON V2.43
Case Summary:	DA-06 Acquire a physical device using access interface AI to an image file.
Assertions:	AM-01 The tool uses access interface SRC-AI to access the digital source. AM-02 The tool acquires digital source DS. AM-03 The tool executes in execution environment XE.
	AM-05 If image file creation is specified, the tool creates an image file on file system type FS.
	AM-06 All visible sectors are acquired from the digital source. AM-08 All sectors acquired from the digital source are acquired accurately. AO-01 If the tool creates an image file, the data represented by the image file is the same as the data acquired by the tool.
	AO-05 If the tool creates a multi-file image of a requested size then all the individual files shall be no larger than the requested size. AO-22 If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source. AO-23 If the tool logs any log significant information, the information is
	ACCURATELY recorded in the log file. AO-24 If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process.
Tester Name:	brl
Test Host:	Athos
Test Date:	Tue Oct 30 14:53:17 2007
Drives:	src(07-SATA) dst (none) other (13-IDE)
Source Setup:	<pre>src hash (SHA1): < 655E9BDDB36A3F9C5C4CC8BF32B8C5B41AF9F52E > src hash (MD5): < 2EAF712DAD80F66E30DEA00365B4579B ></pre>
	Reference SHA256 hashes, Win size: 3903744 (sectors) 1 0 - 3903743
	043AA89C79D5D22715C1E0B28AB86807DC11DE46C1781DECC0AB98E85BF59E40 2 3903744 - 7807487
	86C2063F35FA5BDCC03/9AF//A/3E840909F/9F51158CC3523813A5/109CB65F 3 7807488 - 11711231 C48765F2FCFD04/4F8FEF22F67P474112F0F1FCC64F60026620110058128DCC
	39 148342272 - 152246015
	1830C6D075DFEA26B8855B81DC02676B795E8D9F179C99F0ACCC4B7F07EDF847 40 152246016 - 156149759
	C7E9434D4443928C6A2BBF388CB65DA3CC3F3738459764FF1ABC639E3863049A 41 156149760 - 160053503
	0/AAA56/626F5FF3B43/5F1D43F308/90209492/5/B65388B2//43819BC8F9DF 156301488 total sectors (80026361856 bytes) Model (WDC WD800TD-32WK) corial # (WD-WMA191510044)
	N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 156280257 0000/001/01 1023/254/63 Boot 07 NTES
	2 P 000000000 00000000 0000/000/00 0000/000/00 00
	4 P 000000000 00000000 0000/000/00 0000/000/00 00
Log	***** FORENSIC TALON Serial No.: 15881 Software: V2.43 *****
Highlights:	SESSION SETTINGS
	Uperating Mode: DD Img(2GB) Address Mode: LBA
	Verily : SHA-Fil+V Speed : UDMA-5
	Connection : Direct
	AN EXACT DD IMAGE FILE COPY OF THE SUSPECT DRIVE HAS
	BEEN SUCCESSFULLY EXECUTED ON THE EVIDENCE DRIVE!
	rnysical Unaracleristics
	Serial WD-WMA 19151004
	Culinders Heads Sectors Total Sectors Drive Size
	155061 16 63 156301488 74.5 GB

	Physical Characteristics

Test Case DA	-06-SATA28 F-TALON V2.43		
	Drive Model: MAXTOR STM3120814A		
	Serial: 5LS6PD2S		
	Cylinders Heads Sectors Total Sector	s Drive Size	
	232581 16 63 234441648	111.8 GB	
	Skipped Sectors: 0 Recovered Sectors: 0		
	Block Hashes		
	06SATA28.001: From:0, To:4017967, Size:3903744, SH	A-256:	
	043AA89C79D5D22715C1E0B28AB86807DC11DE46C1781DEC	C0AB98E85BF59E40	
	06SATA28.002: From:3903744, To:7921711, Size:39037	44, SHA-256:	
	86C2063F55FA5BDCC0379AF77A73E840909F79F51158CC35	23813A57109CB65F	
	06SATA28.003: From:7807488, To:11825455, Size:3903	744, SHA-256:	
	C4876353FCEB0814F8A5B522E67B474113F0E1ECC64F6992	662A11AA58138DCC	
	· · ·	000744 000 056	
	U6SATA28.U39: From:148342272, T0:15236U239, S12e:3	903/44, SHA-256:	
	1830C6D0/5DFEA26B8855B81DC026/6B/95E8D9F1/9C99F0	ACCC4B/FU/EDF84/	
	U6SATA28.U4U: From:152246016, T0:156263983, S12e:3	903/44, SHA-256:	
	C/E9434D4443928C6A2BBF388CB65DA3CC3F3/38459/64FF	IABC639E3863U49A	
	005A1A20.041; FIOH:130149700, 10:100107727, 5128:1	J1/20, SHA-2JU; D277/3010DC0F0DF	
	OTRAASOTOZOFSFFSB4STSF1D4SF500790209492757805500	BZ//43019BC0F9DF	
	speed UDMA_5		
	Speed ODFM 5		
Results:			
100012000.	Assertion & Expected Result	Actual Result	
	AM-01 Source acquired using interface AI.	as expected	
	AM-02 Source is type DS.	as expected	
	AM-03 Execution environment is XE.	as expected	
	AM-05 An image is created on file system type FS.	as expected	
	AM-06 All visible sectors acquired.	as expected	
	AM-08 All sectors accurately acquired.	as expected	
	AO-01 Image file is complete and accurate.	as expected	
	AO-05 Multifile image created	as expected	
	NO 22 maal calculates hashes by block	as expected	
	AUEZZ TOOT CATCUTATES HASHES DV DIOCK.		
	AO-22 TOOL Calculates hashes by block.	as expected	
	A0-22 loof calculates hashes by block. A0-23 Logged information is correct. A0-24 Source is unchanged by acquisition	as expected	
	AO-22 loof calculates hashes by block. AO-23 Logged information is correct. AO-24 Source is unchanged by acquisition.	as expected as expected	
	AO-22 loof calculates hashes by block. AO-23 Logged information is correct. AO-24 Source is unchanged by acquisition.	as expected as expected	
Analysis:	AO-22 Tool calculates hashes by block. AO-23 Logged information is correct. AO-24 Source is unchanged by acquisition.	as expected as expected	

5.2.12 DA-06-SATA48

Test Case DA-	06-SATA48 F-TALON V2.43	
Case Summary:	DA-06 Acquire a physical device using access interface AI to an image file.	
Assertions:	AM-01 The tool uses access interface SRC-AI to access the digital source.	
	AM=02 The tool acquires digital source DS.	
	AM=05 If image file creation is specified the tool creates an image file	
	on file system type FS.	
	AM-06 All visible sectors are acquired from the digital source.	
	AM-08 All sectors acquired from the digital source are acquired accurately.	
	AO-01 If the tool creates an image file, the data represented by the image	
	file is the same as the data acquired by the tool.	
	A0-05 If the tool creates a multi-file image of a requested size then all	
	the individual files shall be no larger than the requested size. D_{0-22} If requested the tool calculates block bashes for a specified block	
	size during an acquisition for each block acquired from the digital source.	
	AO-23 If the tool logs any log significant information, the information is	
	accurately recorded in the log file.	
	A0-24 If the tool executes in a forensically safe execution environment,	
	the digital source is unchanged by the acquisition process.	
Tester Name:	brl	
Test Host:	Athos	
Test Date:	Mon Oct 29 15:40:17 2007	
Drives:	src(UD-SATA) dst (none) other (ID-SATA) src bash (SHA1) · < BAAD80E8781E55E2E3EE528CA73BD41D228C1377 >	
Setup:	src hash (MD5): < 1FA7C3CBE60EB9E89863DED2411E40C9 >	
-	488397168 total sectors (250059350016 bytes)	
	30400/254/63 (max cyl/hd values)	
	30401/255/63 (number of cyl/hd)	
	Model (WDC WD2500JD-22F) serial # (WD-WMAEH26/8216)	
	N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 488375937 0000/001/01 1023/254/63 Boot 07 NTES	
	2 P 000000000 000000000 0000/00/00 0000/000/00 00	
	3 P 000000000 00000000 0000/000/00 0000/000/00 00	
	4 P 000000000 00000000 0000/000/00 0000/000 00	
	1 488375937 sectors 250048479744 bytes	
Log	***** FORENSIC TALON Serial No.: 15881 Software: V2.43 *****	
Highlights:	SESSION SETTINGS	
	Operating Mode: DD Img(650M) Address Mode: LBA	
	Verify : MD5-Disk Speed : UDMA-4	
	Connection : Direct	
	BEEN SUCCESSFULLY EXECUTED ON THE EVIDENCE DRIVE HAS	

	Physical Characteristics	
	Drive Model: WDC WD2500JD-22FYB0	
	Serial: WD-WMAEH2678216	
	Cylinders Heads Sectors Total Sectors Drive Size	

	Physical Characteristics	
	Drive Model: ST3320620AS	
	Serial: 5QF3YS2E	
	Cylinders Heads Sectors Total Sectors Drive Size	
	620181 16 63 625142448 298.1 GB Skipped Sectors: 0 Recovered Sectors: 0	
	* Source Drive From:0, To:488397167, Size:488397168. MD5 Value:	
	Acquisition Hash	
	Source Drive From:0, To:488397167, Size:488397168, MD5 Value:	
	1FA7C3CBE60EB9E89863DED2411E40C9	
	Settings: error skip	
	speed UDMA-5	
Results:		

Test Case DA-06-SATA48 F-TALON V2.43		
	Assertion & Expected Result	Actual Result
	AM-01 Source acquired using interface AI.	as expected
	AM-02 Source is type DS.	as expected
	AM-03 Execution environment is XE.	as expected
	AM-05 An image is created on file system type FS.	as expected
	AM-06 All visible sectors acquired.	as expected
	AM-08 All sectors accurately acquired.	as expected
	AO-01 Image file is complete and accurate.	as expected
	AO-05 Multifile image created.	as expected
	AO-22 Tool calculates hashes by block.	option not tested
	AO-23 Logged information is correct.	as expected
	AO-24 Source is unchanged by acquisition.	as expected
Analysis:	Expected results achieved	

5.2.13 DA-06-USB

Test Case DA-0	est Case DA-06-USB F-TALON V2.43		
Case Summary:	DA-06 Acquire a physical device using access interface AI to an image file.		
Assertions:	AM-01 The tool uses access interface SRC-AI to access the digital source.		
	AM-02 The tool acquires digital source DS.		
	AM-03 The tool executes in execution environment XE.		
	AM-05 If image file creation is specified, the tool creates an image file		
	on file system type FS.		
	AM-06 All visible sectors are acquired from the digital source.		
	AM-08 All sectors acquired from the digital source are acquired accurately.		
	A0-01 If the cool of the data acquired by the tool		
	A0-05 If the tool creates a multi-file image of a requested size then all		
	the individual files shall be no larger than the requested size.		
	AO-22 If requested, the tool calculates block hashes for a specified block		
	size during an acquisition for each block acquired from the digital source.		
	AO-23 If the tool logs any log significant information, the information is		
	accurately recorded in the log file.		
	A0-24 If the tool executes in a forensically safe execution environment,		
	the digital source is unchanged by the acquisition process.		
Tester Name:	brl		
Test Host:	Athos		
Test Date:	Wed Oct 31 14:06:34 2007		
Drives:	src(D5-THUMB) dst (none) other (5A)		
Source	src hash (SHA1): < D68520EF74A336E49DCCF83815B7B08FDC53E38A >		
Setup:	src hash (MD5): < C843593624B2B3B8/8596D8/60B19954 >		
	Model (usb2) (Elast Disk) serial # ()		
	N Start IRA Length Start (H) S End C/H/S boot Partition type		
	1 P 778135908 1141509631 0357/116/40 0357/032/45 Boot 72 other		
	2 P 168689522 1936028240 0288/115/43 0367/114/50 Boot 65 other		
	3 P 1869881465 1936028192 0366/032/33 0357/032/43 Boot 79 other		
	4 P 2885681152 000055499 0372/097/50 0000/010/00 Boot 0D other		
	1 1141509631 sectors 584452931072 bytes		
	2 1936028240 sectors 991246458880 bytes		
	3 1930025192 Sectors 991240434304 bytes		
	4 000000499 Sectors 20410400 Bytes		
Log	***** FORENSIC TALON Serial No.: 15881 Software: V2.43 *****		
Highlights:	SESSION SETTINGS		
	Operating Mode: DD Img(4GB) Address Mode: LBA		
	Verify : MD5-Disk Speed : PIO-AUTO		
	Connection : Direct		
	AN EARCH DD IMAGE FILE COFT OF THE SUSFECT DRIVE HAS		

	Physical Characteristics		
	Drive Model: CRUCIAL usb2.0Flash Disk		
	Serial:		
	Cylinders Heads Sectors Total Sectors Drive Size		

	Physical Characteristics		
	Drive Model: IBM-DTTA-350640		
	Serial: WD0WDF99294		
	Cylinders Heads Sectors Total Sectors Drive Size		
	13431 15 63 12692736 6.1 GB		
	SKIPPED Sectors: U Recovered Sectors: U		
	Acquisition Hash		
	Source Drive From:0, To:505855, Size:505856, MD5 Value:		
	C843593624B2B3B878596D8760B19954		
	Settings: error skip		
	speed PIO-AUTO		

Results:		
	Assertion & Expected Result	Actual Result
	AM-01 Source acquired using interface AI.	as expected
	AM-02 Source is type DS.	as expected
	AM-03 Execution environment is XE.	as expected
	AM-05 An image is created on file system type FS.	as expected
	AM-06 All visible sectors acquired.	as expected
	AM-08 All sectors accurately acquired.	as expected
	AO-01 Image file is complete and accurate.	as expected
	AO-05 Multifile image created.	as expected
	AO-22 Tool calculates hashes by block.	option not tested
	AO-23 Logged information is correct.	as expected
	AO-24 Source is unchanged by acquisition.	as expected
Analysis:	Expected results achieved	

5.2.14 DA-07-CF

Test Case DA-07-CF F-TALON V2.43		
Case Summarv:	DA-07 Acquire a digital source of type DS to an image file.	
Assertions:	 AM-01 The tool uses access interface SRC-AI to access the digital source. AM-02 The tool acquires digital source DS. AM-03 The tool executes in execution environment XE. AM-05 If image file creation is specified, the tool creates an image file on file system type FS. AM-06 All visible sectors are acquired from the digital source. AM-08 All sectors acquired from the digital source are acquired accurately. AO-01 If the tool creates an image file, the data represented by the image file is the same as the data acquired by the tool. AO-05 If the tool creates a multi-file image of a requested size then all the individual files shall be no larger than the requested size. AO-22 If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source. AO-23 If the tool logs any log significant information, the information is accurately recorded in the log file. AO-24 If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process. 	
Tester Name:	brl	
Test Host:	Paladin	
Test Date:	Wed Oct 31 15:04:43 2007	
Drives:	src(C1-CF) dst (none) other (5A)	
Setup:	<pre>STC Hash (SHA250): < C7CF0218222DF80D5316511D6814266C7FA507C13F795AD3D323BB73C1590D80 > src hash (SHA1): < 5B8235178DF99FA307430C088F81746606638A0B > src hash (MD5): < 776DF8B4D2589E21DEBCF589EDC16D78 > 503808 total sectors (257949696 bytes) Model (</pre>	
Highlights:	Session settial Not. 1901 Software. V2.45 Session settings Operating Mode: DD Img(650M) Address Mode: LBA Verify : MD5-File Speed : PIO-AUTO Connection : Direct AN EXACT DD IMAGE FILE COPY OF THE SUSPECT DRIVE HAS BEEN SUCCESSFULLY EXECUTED ON THE EVIDENCE DRIVE! ************************************	

Test Case DA-07-CF F-TALON V2.43		
	Settings: error skip	
	speed PIO-AUTO	
Results:		
	Assertion & Expected Result	Actual Result
	AM-01 Source acquired using interface AI.	as expected
	AM-02 Source is type DS.	as expected
	AM-03 Execution environment is XE.	as expected
	AM-05 An image is created on file system type FS.	as expected
	AM-06 All visible sectors acquired.	as expected
	AM-08 All sectors accurately acquired.	as expected
	AO-01 Image file is complete and accurate.	as expected
	AO-05 Multifile image created.	as expected
	AO-22 Tool calculates hashes by block.	option not tested
	AO-23 Logged information is correct.	as expected
	A0-24 Source is unchanged by acquisition.	as expected
Analysis:	Expected results achieved	

5.2.15 DA-08-ATA28

Test Case DA-08-ATA28 F-TALON V2.43		
Case Summary:	DA-08 Acquire a physical drive with hidden sectors to an image file.	
Assertions:	AM-01 The tool uses access interface SRC-AI to access the digital source. AM-02 The tool acquires digital source DS. AM-03 The tool executes in execution environment XE. AM-05 If image file creation is specified, the tool creates an image file on file system type FS. AM-06 All visible sectors are acquired from the digital source. AM-07 All hidden sectors are acquired from the digital source. AM-08 All sectors acquired from the digital source acquired accurately. AO-01 If the tool creates an image file, the data represented by the image file is the same as the data acquired by the tool. AO-05 If the tool creates a multi-file image of a requested size then all the individual files shall be no larger than the requested size. AO-22 If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source. AO-23 If the tool logs any log significant information, the information is accurately recorded in the log file. AO-24 If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process.	
Tester Name:	brl	
Test Host:	Paladin	
Test Date:	Wed Oct 31 16:00:24 2007	
Drives:	src(42) dst (none) other (23-IDE)	
Setup:	<pre>Src hash (SHAI): < SA73399023050ED0E905082E35F6FAAIDE049229 > src hash (MD5): < F4B9AAB24554EEEB2A962BDA554A9252 > Reference MD5 hashes, Win size: 1301248 (sectors) 1 0 - 1301247 4C09659BDFF6385AEC8430C6748DE2CE - 2 1301248 - 2602495 D1737C33CBE394D17EFA80CB1576D498 - 3 2602496 - 3903743 35300547B2FE971755257FDA3FD76C77 - 59 75472384 - 76773631 6541BC90D2D418C8451A935DB6539206 - 60 76773632 - 78074879 E6F50867FE12E5A3D74383E6C17888AC - 61 78074880 - 79376127 4D92ABF2A131DF5A5C3D0DFB318DDE27 - 78165360 total sectors (40020664320 bytes) 65534/015/63 (max cyl/hd values) 65535/016/63 (number of cyl/hd) IDE disk: Model (WDC WD400JB-00JJC0) serial # (WD-WCAMA3958512) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 070348572 0000/001/01 1023/254/63 Boot 07 NTFS 2 P 00000000 00000000 0000/000/00 0000/000/00 00</pre>	
	BIOS, XBIOS and Direct disk geometry Reporter (BXDR) BXDR 128 /S70000000 /P /fbxdrlog.txt Setting Maximum Addressable Sector to 70000000 MAS now set to 70000000 Hashes with HPA in place md5:9BF3C3DEADE47056A1DDC073C5F6B2E2 sha1:D76F909482B00767B62C295CADE202F92E61CD2E	
Log Highlights:	<pre>***** FORENSIC TALON Serial No.: 15881 Software: V2.43 ***** SESSION SETTINGS Operating Mode: DD Img(650M) Address Mode: LBA Verify : MD5-File Speed : UDMA-4 Connection : Direct AN EXACT DD IMAGE FILE COPY OF THE SUSPECT DRIVE HAS BEEN SUCCESSFULLY EXECUTED ON THE EVIDENCE DRIVE! ************************************</pre>	

Test Case DA-	08-ATA28 F-TALON V2.43	
	Drive Model: WDC WD400JB-00JJC0	
	Serial: WD-WCAMA3958512	
	Cylinders Heads Sectors Total Sectors	s Drive Size
	77545 16 63 78165360	37.3 GB
	**************************************	* * * * * * * * * * * * * * * * * * * *
	Physical Characteristics	
	Drive Model: Maxtor 6L100P0	
	Serial: L26YGVQG	
	Cylinders Heads Sectors Total Sector:	s Drive Size
	Skipped Sectors: 0 Becovered Sectors: 0	93.4 GB
	Block Hashes	
	081T128 001. From.0 To.1342165 Size.1301248 MD5	Value·
	4C09659BDFF6385AEC8430C6748DE2CE	Varue.
	08ATA28.002: From:1301248. To:2643413. Size:130124	8, MD5 Value:
	D1737C33CBE394D17EFA80CB1576D498	-,
	08ATA28.003: From:2602496, To:3944661, Size:130124	8, MD5 Value:
	35300547B2FE971755257FDA3FD76C77	
	08ATA28.059: From:75472384, To:76814549, Size:13012	248, MD5 Value:
	6541BC90D2D418C8451A935DB6539206	
	08ATA28.060: From:76773632, To:78115797, Size:1301	248, MD5 Value:
	E6F50867FE12B5A3D74383E6C17888AC	
	08ATA28.061: From:/80/4880, To:/941/045, Size:9048	0, MD5 Value:
	4D92ABF2AI3IDF5A5C3D0DFB318DDE27	
	speed UDMA-5	
	speed opma-5	
Results:		
100012001	Assertion & Expected Result	Actual Result
	AM-01 Source acquired using interface AI.	as expected
	AM-02 Source is type DS.	as expected
	AM-03 Execution environment is XE.	as expected
	AM-05 An image is created on file system type FS.	as expected
	AM-06 All visible sectors acquired.	as expected
	AM-07 All hidden sectors acquired.	as expected
	AM-08 All sectors accurately acquired.	as expected
	AO-01 Image file is complete and accurate.	as expected
	AO-05 Multifile image created.	as expected
	AO-22 Tool calculates hashes by block.	as expected
	AO-23 Logged information is correct.	as expected
	A0-24 Source is unchanged by acquisition.	as expected
Analysis:	Expected results achieved	

5.2.16 DA-08-ATA48

Test Case DA-08-ATA48 F-TALON V2.43		
Case Summary:	DA-08 Acquire a physical drive with hidden sectors to an image file.	
Assertions:	 AM-01 The tool uses access interface SRC-AI to access the digital source. AM-02 The tool acquires digital source DS. AM-03 The tool executes in execution environment XE. AM-05 If image file creation is specified, the tool creates an image file on file system type FS. AM-06 All visible sectors are acquired from the digital source. AM-07 All hidden sectors are acquired from the digital source. AM-08 All sectors acquired from the digital source are acquired accurately. AO-01 If the tool creates an image file, the data represented by the image file is the same as the data acquired by the tool. AO-05 If the tool creates a multi-file image of a requested size then all the individual files shall be no larger than the requested size. AO-22 If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source. AO-23 If the tool logs any log significant information, the information is accurately recorded in the log file. AO-24 If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process. 	
Tester Name:	brl	
Test Host:	Athos	
Test Date:	Thu Nov 1 10:39:58 2007	
Drives:	src(4B) dst (none) other (28-IDE)	
Setup:	<pre>src hash (MD5): < B5641B5A594912B4D6051B304B1DE69B155B140E > src hash (MD5): < B5641B5A594912B4D60518304B1DE698 > Reference MD5 hashes, Win size: 7807488 (sectors) 1 0 - 7807487 E0BE648B0DCD8408BB651049ED08AF2C - 2 7807488 - 15614975 EF98DB35796126ABBC04412589FB7932 - 3 15614976 - 23422463 C8CFFAC6AB449242BD80E98F1F656FDA -</pre>	
	24321/255/63 (number of cyl/hd) IDE disk: Model (WDC WD2000JB-00GVC0) serial # (WD-WCAL78252964) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 351646722 0000/001/01 1023/254/63 Boot 07 NTFS 2 P 00000000 00000000 0000/000 0000/000/0	
	BXDR 128 /S351000000 /P /fHPA.TXT Setting Maximum Addressable Sector to 351000000 MAS now set to 351000000 Hashes with HPA in place md5:6BAFEFC000470C126434D933429C879B sha1:2D50DBD82CD3DA90A6E5BF13B2B40808C40998A1	
Log Highlights:	<pre>***** FORENSIC TALON Serial No.: 15881 Software: V2.43 ***** SESSION SETTINGS Operating Mode: DD Img(4GB) Address Mode: LBA Verify : MD5-File Speed : UDMA-4 Connection : Direct AN EXACT DD IMAGE FILE COPY OF THE SUSPECT DRIVE HAS BEEN SUCCESSFULLY EXECUTED ON THE EVIDENCE DRIVE! ************************************</pre>	

Test Case DA-	08-ATA48 F-TALON V2.43	
	Drive Model: WDC WD2000JB-00GVC0	
	Serial: WD-WCAL78252964	
	Cylinders Heads Sectors Total Sectors	s Drive Size
	387621 16 63 390721968	186.3 GB
	**************************************	* * * * * * * * * * * * * * * * * * * *
	Physical Characteristics	
	Drive Model: WDC WD2500JB-00GVC0	
	Serial: WD-WCAL78181051	
	Cylinders Heads Sectors Total Sector:	s Drive Size
	484521 16 63 488397168	232.9 GB
	Skipped Sectors: U Recovered Sectors: U	
	BLOCK HASHES	Value
	FORE648B0DCD8408B8651040ED087E2C	value.
	ПОВАЛАЯ 002. From.7807488 To.15733717 Size.78074	88 MD5 Value.
	EF98DB35796126ABBC04412589FB7932	oo, mbo varae.
	08ATA48.003: From:15614976, To:23541205, Size:7807	488. MD5 Value:
	C8CFFAC6AB449242BD80E98F1F656FDA	
	08ATA48.049: From:374759424, To:382685653, Size:78	07488, MD5 Value:
	EDE9FDEACC276A2B28900691C92B0DB9	
	08ATA48.050: From:382566912, To:390493141, Size:78	07488, MD5 Value:
	3175264A9003C5D980DDEB823767DFE6	
	08ATA48.051: From:390374400, To:398300629, Size:34	7568, MD5 Value:
	D881EE19EA1A118FE1A53AD2422AE033	
	Settings: error skip	
	speed UDMA-5	
D		
Results:	Acception (Remonted Desult	Astrol Descrit
	Assertion & Expected Result	Actual Result
	AM-01 Source acquired using interface AI.	as expected
	AM-02 Source is type DS.	as expected
	AM-05 Execution environment is XE.	as expected
	AM-05 An image is created on file system type FS.	as expected
	AM-06 All Visible sectors acquired.	as expected
	AM-0/ All hidden sectors acquired.	as expected
	AM-08 All sectors accurately acquired.	as expected
	AO-OI Image file is complete and accurate.	as expected
	AU-US MULLIILE IMage Created.	as expected
	AU-22 TOOL CALCULATES NASNES BY DLOCK.	as expected
	AU-25 Logged information is correct.	as expected
	AU-24 Source is unchanged by acquisition.	as expected
Apalveie.	Evpected results achieved	
imathoro.	Process reparts achiteved	

5.2.17 DA-08-DCO

Test Case DA-08-DCO F-TALON V2.43		
Case Summary:	DA-08 Acquire a physical drive with hidden sectors to an image file.	
Assertions:	 AM-01 The tool uses access interface SRC-AI to access the digital source. AM-02 The tool acquires digital source DS. AM-03 The tool executes in execution environment XE. AM-05 If image file creation is specified, the tool creates an image file on file system type FS. AM-06 All visible sectors are acquired from the digital source. AM-07 All hidden sectors are acquired from the digital source. AM-08 All sectors acquired from the digital source are acquired accurately. AO-01 If the tool creates an image file, the data represented by the image file is the same as the data acquired by the tool. AO-05 If the tool creates a multi-file image of a requested size then all the individual files shall be no larger than the requested size. AO-22 If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source. AO-23 If the tool logs any log significant information, the information is accurately recorded in the log file. AO-24 If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process. 	
Tester Name:	brl	
Test Host:	Athos	
Test Date:	Thu Nov 1 14:40:14 2007	
Drives:	src(92) dst (none) other (13-IDE)	
Source Setup:	<pre>src hash (SHA1): < 63E6F7BD3040A8ADA2CF8FBF66A805E76DF10481 > src hash (MD5): < E095DD1BD0B0D06E603153A3FE1A2F3E > 58633344 total sectors (30020272128 bytes) 58167/015/63 (max cyl/hd values) 58168/016/63 (number of cyl/hd) IDE disk: Model (WDC WD300BB-00CAA0) serial # (WD-WMA8H2140350) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 058605057 0000/001/01 1023/254/63 Boot 07 NTFS 2 P 00000000 00000000 0000/000/00 0000/000/00 00</pre>	
Highlights:	Serial: 5LSGPD2S Cylinders Heads Sectors Total Sectors Drive Size Derive Model: 5LSGPD2S Cylinders Heads Sectors Total Sectors Drive Size Drive Model: 5LSGPD2S Cylinders Heads Sectors Total Sectors Drive Size Serial: 5LSGP3 Cylinders Heads Sectors Total Sectors Drive Size Serial: 5LSGP3 Cylinders Heads Sectors Total Sectors Drive Size Serial: 5LSGP3 Cylinders Heads Sectors Total Sectors Drive Size Sectors: 0 Recovered Sectors: 0 * Source Drive From:0, To:58633343, Size:58633344, MD5 Value: Acquisition Hash Source Drive From:0, To:58633343, Size:58633344, MD5 Value:	
	E095DD1BD0B0DD6E603153A3FE1A2F3E	

Test Case DA-08-DCO F-TALON V2.43		
	Settings: error skip speed UDMA-5	
Results:		
	Assertion & Expected Result	Actual Result
	AM-01 Source acquired using interface AI.	as expected
	AM-02 Source is type DS.	as expected
	AM-03 Execution environment is XE.	as expected
	AM-05 An image is created on file system type FS.	as expected
	AM-06 All visible sectors acquired.	as expected
	AM-07 All hidden sectors acquired.	as expected
	AM-08 All sectors accurately acquired.	as expected
	AO-01 Image file is complete and accurate.	as expected
	AO-05 Multifile image created.	as expected
	AO-22 Tool calculates hashes by block.	option not tested
	AO-23 Logged information is correct.	as expected
	AO-24 Source is unchanged by acquisition.	as expected
		·
Analysis:	Expected results achieved	

5.2.18 DA-09-RETRY

Test Case DA-09-RETRY F-TALON V2.43		
Case Summary:	DA-09 Acquire a digital source that has at least one faulty data sector.	
Assertions:	 AM-01 The tool uses access interface SRC-AI to access the digital source. AM-02 The tool acquires digital source DS. AM-03 The tool executes in execution environment XE. AM-05 If image file creation is specified, the tool creates an image file on file system type FS. AM-06 All visible sectors are acquired from the digital source. AM-08 All sectors acquired from the digital source are acquired accurately. AM-09 If unresolved errors occur while reading from the selected digital source, the tool notifies the user of the error type and location within the digital source. AM-10 If unresolved errors occur while reading from the selected digital source, the tool uses a benign fill in the destination object in place of the inaccessible data. AO-01 If the tool creates an image file, the data represented by the image file is the same as the data acquired by the tool. AO-05 If the tool creates a multi-file image of a requested size then all the individual files shall be no larger than the requested size. AO-22 If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source. AO-23 If the tool logs any log significant information, the information is accurately recorded in the log file. AO-24 If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process. 	
Maatan		
Name:	brl	
Test Host:	Athos	
Test Date:	Thu Nov 1 15:45:04 2007	
Drives:	<pre>src(ED-BAD-CPR1) dst (6F) other (none)</pre>	
Source Setup: Log	<pre>No before hash for ED-BAD-CPR1 120103200 total sectors (61492838400 bytes) Drive with known bad sectors Vendor: Maxtor Model: DiamondMax Plus 9 Known Bad Sector List for ED-CPR-BAD-1 Manufacturer: Maxtor Model: 6Y060L0 DiamondMax Plus 9 Serial Number: Y27KR6CE Capacity: 60GB Interface: PATA 54 faulty sectors 10069095, 10069911, 12023808, 18652594, 18656041, 18656857, 18660303, 18661119, 19746716-19746717, 22233904, 23098370, 23383001, 24102466- 24102467, 24104250, 24106656, 24107458, 28959971-28959972, 41825791, 41828995, 52654580, 52655318, 60522984, 68643842-68643843, 69973290, 72714626, 72715293, 82148809, 82148810, 83810525, 85310861, 85313430, 85314038-85314039, 86321211, 86323780, 87186066, 87856313, 87856922, 97191260-97191261, 100093150-100093151, 103861021, 109706975-109706976, 110347947, 110350122-110350123, 115664758, 115835518 Destination setup</pre>	
Highlights:	120103200 sectors wiped with 6F Comparision of original to clone Drive Sectors compared: 120103200 Sectors match: 120103146 Sectors differ: 54 Bytes differ: 27594 Diffs range 10069095, 10069911, 12023808, 18652594, 18656041, 18656857, 18660303, 18661119, 19746716-19746717, 22233904, 23098370, 23383001, 24102466-24102467, 24104250, 24106656, 24107458, 28959971-28959972, 41825791, 41828995,	

Test Case DA-	-09-RETRY F-TALON V2.43	
	52654580, 52655318, 60522984, 68643842-68643843, 69	973290,
	72714626, 72715293, 82148809-82148810, 83810525, 85	310861,
	85313430, 85314038-85314039, 86321211, 86323780, 87	186066,
	87856313, 87856922, 97191260-97191261, 100093150-10	0093151,
	103861021, 109706975-109706976, 110347947, 11035012	2-110350123,
	115664758, 115835518	·
	0 source read errors, 0 destination read errors	
	***** FORENSIC TALON Serial No.: 15881 Sof	tware: V2.43 *****
	SESSION SETTINGS	
	Operating Mode: Capture Address Mode:	LBA
	Verify : None Speed :	ΡΙΟ-Αυτο
	Connection : Direct	
	100% MIRROR COPY OF THE SUSPECT DRIVE I	HAS BEEN
	SUCCESSFULLY EXECUTED ON THE EVIDENCE	DRIVE!
	No Destination Drive erase require	ed!
	**************************************	****
	Physical Characteristics	
	Drive Model: Maxtor 6Y060L0	
	Serial: V27KB6CE	
	Culinders Heads Sectors Total Sector	s Drive Size
	110150 16 63 120103200	57 3 CD
	Computed SHA-256 Value, NONE	J7.3 GB
	Recovered Sectors: 0	Soctors, 54
	**************************************	Seclors: J4
	DESIINATION DRIVE	
	Physical characteristics	
	Drive Model: Maxtor 61060L0	
	Serial: Y2VVJJ5E	
	Cylinders Heads Sectors Total Sector	s Drive Size
	119150 16 63 120103200	57.3 GB
	Computed SHA-256 Value: NONE	
	Skipped Sector Addresses:	
	10069095 10069911 12023808 18652594 186	56041 18656857
	18660303 18661119 19746716 19746717 222	33904 23098370
	23383001 24102466 24102467 24104250 241	06656 24107458
	28959971 28959972 41825791 41828995 526	54580 52655318
	60522984 68643842 68643843 69973290 727	14626 72715293
	82148809 82148810 83810525 85310861 853	13430 85314038
	85314039 86321211 86323780 87186066 878.	56313 87856922
	97191260 97191261 100093150 100093151 103	861021 109706975
	109706976 110347947 110350122 110350123 115	664758 115835518
	Skipped Sectors: 54 Recovered Sectors:	0
	Recovered Sectors: 0 Unrecovered/Skipped	Sectors: 54
	Skipped Sector Addresses:	
	Skipped Sectors: 54 Recovered Sectors: 0	
	2 different run lengths observed in 44 runs	
	34 runs of length 1	
	10 runs of length 2	
	54 sectors differ	
	54 zero filled and 0 varying non-zero filled	
	Settings: error retry	
	speed PIO-AUTO	
Results:		
	Assertion & Expected Result	Actual Result
	AM-01 Source acquired using interface AI.	as expected
	AM-02 Source is type DS.	as expected
	AM-03 Execution environment is XE	as expected
	AM-05 An image is created on file system type FS	as expected
	AM Of All wights creaters aggined	as expected
	AM-06 All VISIBle Sectors acquired.	as expected
	AM-08 All sectors accurately acquired.	as expected
	AM-09 Error logged.	as expected
	AM-10 Benign till replaces inaccessible sectors.	as expected
	AO-01 Image file is complete and accurate.	as expected
	AO-05 Multifile image created.	as expected
	AO-22 Tool calculates hashes by block.	option not tested
	AO-23 Logged information is correct.	as expected
	AO-24 Source is unchanged by acquisition.	not checked

Test Case DA-09-RETRY F-TALON V2.43	
Analysis:	Expected results achieved

5.2.19 DA-09-RETRY-SATA

Test Case DA-09-RETRY-SATA F-TALON V2.43		
	43508342, 43872574, 43873411, 45217120, 45217121, 45777316,	
	46221189, 46296219, 46296220, 46528674, 46955925, 47093653,	
	48537000, 48537662, 49911188, 49911189, 51017721, 51769307,	
	51769969, 51994516, 51994517, 53855354, 55793018, 55793019,	
	57316559, 57320313, 60571670, 60571671, 60571672, 60952349,	
	60952350, 60952993, 61535962, 61535963, 61535964, 62592910,	
	62593672, 62596563, 62597325, 62600215, 63140751, 63140752,	
	63141513, 63141514, 63144404, 63226363, 63229253, 63670246,	
	63972517, 63975497, 65576815, 65925948, 66146215, 67860503,	
	67860504, 68711104, 69100751, 69176705, 69189596, 69189597,	
	69189598, 69190358, 69190359, 69190360, 69974439, 69975201,	
	70656792, 72217315, 72801392, 72992581, 72992582, 73626901,	
	73626902, 75004819, 78164515, 78167178, 78167885, 78307369,	
	/8415033, /8415034, /8693137, /9145838, /9146544, /9146545,	
	/9146546, /9/44/14, /9/45420, /9/48084, /9/48/90, /9901007,	
	80891204, 80891203, 82083870, 82083871, 82083872, 83739031, 92730052, 9441150, 9453520, 95101104, 95419740, 97107252	
	00120545 0000545 00001216 00022752 00024420 00011123	
	807111/ 88755730 8022/210, 0022/22, 0022/422, 000/1013,	
	027/37/5 0/11708 0502570 520573 0736021 0745310	
	9685572 10687317 10689593 10225339 103403045	
	104768238. 105074641. 105638643. 106115226. 106115791.	
	106117947. 106118512. 106120668. 106121233. 106122698.	
	106123954, 106123955, 106125419, 106125420, 106125984,	
	106125985, 106128141, 106128706, 106186051, 106936608,	
	107133037, 107276378, 108007258, 109270108, 109270673,	
	109272829, 109273394, 109275550, 109319902, 110072175,	
	111250371, 111251549, 111485059, 112587333, 112588682,	
	112588683, 112588684, 114286586, 114359887, 115110935,	
	116807008, 116807009, 116808918, 117175664, 117177512,	
	117178002, 117179850, 117180340, 117180341, 117181588,	
	117182678, 117182679, 117182680, 117183926, 117184417,	
	117186264, 117186265, 117186755, 117188602, 117188603,	
	117188604, 117189093, 117190341, 117193170, 117195017,	
	11/193018, 11/19308, 11/19/333, 11/19/330, 11/19/337, 11/19/337, 11/19/337,	
	11/19/040, 11/199094, 11/19904, 11/201432, 11/201922, 11/201023 11/200770 11/2004061 11/2004261 11/2004262	
	1172015208, 117206599, 117207846, 117207847, 117207848,	
	117208337, 117210185, 117210675, 117212523, 117213013,	
	117213014, 117214261, 117215352, 117217090, 117218938,	
	117219428, 117219429, 117221276, 117221766, 117221767,	
	117221768, 117223014, 117223505, 117225352, 117225353,	
	117225354, 117225843, 117227691, 117228181, 117229429,	
	117230519, 117230520, 117231767, 117232258, 117234105,	
	117234106, 117234596, 117236444, 117236934, 117238182,	
	117239272, 117239273, 117240520, 117241011, 117242858,	
	117242859, 117245687, 117245688, 117246935, 117247426,	
	117249273, 117249274, 117249764, 117251612, 117252102,	
	11/253350, 11/254440, 11/254441, 11/25688, 11/2561/9,	
	11/258026, 11/258027, 11/258517, 11/260365, 11/260855,	
	11/262103, 11/263193, 11/263194, 11/264441, 11/264932,	
	11/200//9, 11/200/80, 11/2012/0, 11/20918, 11/209008,	
	11/2/10030, 11/2/1340, 11/2/1341, 11/2/1333, 11/2/0023, 11/2/7871 11/2/2861 11/2/2862 11/2/2863 11/2/2860	
	117280100 117281947 117281948 117282438 11728246	
	117284776, 117286024, 117287114, 117287115, 117287116,	
	117288362, 117288853, 117290700, 117290701, 117290702,	
	117291191, 117293039, 117293529, 117294777, 117295867,	
	117295868, 117295869, 117297115, 117297606, 117299453,	
	117299454, 117299455, 119655644	
Log	Destination setup	
HighLights:	156301488 sectors wiped with 22	
	Comparision of original to clone Drive	
	Sectors compared: 120103200	
	Sectors match: 120102732	
	Sectors differ: 468	
	Bytes differ: 239148	
	Diffs range 1344585, 2594747, 2595500, 2599086, 2599839,	

Test Case DA-09	-RETRY-SATA F-TALON V2.43
	2809909-2809910, 3422895-3422896, 4116750, 4120336-4120337,
	4121089-4121090, 4696046, 4698397, 4703710, 4707186,
	4708105, 4711580, 4712499, 4714850, 4715770, 4719245,
	4/23639-4/23640, 4/24558-4/24559, 4/28034, 4/28953,
	4/31304, 4/32223, 4/33099, 4/40093, 4/41012, 4/43303, 1746407, 4746677, 4756167, 476617
	4/43407, 4/48077, 4/32132, 4/30347, 4/37400, 4/39017, A761860_47618614764211_47642124765130_4765131
	4768606, 4768525, 4773001, 4773920, 4776211, 4777190,
	4780665, 4781584, 5446946, 5448990, 5451341, 5452260,
	5620120, 5623595-5623597, 5624514-5624516, 5626865-5626867,
	5628909, 5631260, 5632179, 5635655, 5636574, 5640049,
	6021518, 6023869, 6024788, 6028263, 7662307, 8340091-8340092,
	12178157, 12179060, 12181370, 12182273, 12185687, 12186590,
	12340277, 13016906, 13049575, 13050477-13050478, 14000022,
	14000762, 14004285, 14041240, 17135988, 17723611, 17876726,
	18161032, 18760155, 20090856, 20094289, 20095011, 20661414,
	21693295, 216941/4, 2169/502, 22/30/1/, 22838/34-22838/35,
	24390104724390100, 20191/19, 21000030, 2000041, 2000193, 2055532, 20655054, 30/08210_30/08211, 32215323, 32218660
	23523130 23001440 35267814 37975363 28134506 38136734
	38137571-38137572, 38207258-38207259, 38542983, 38567425.
	38568109, 39421072, 39421909, 39425071, 40273501, 42836488,
	42837172, 42843548, 42847497, 42851446, 42854557, 43505180,
	43508342, 43872574, 43873411, 45217120-45217121, 45777316,
	46221189, 46296219-46296220, 46528674, 46955925, 47093653,
	48537000, 48537662, 49911188-49911189, 51017721, 51769307,
	51769969, 51994516-51994517, 53855354, 55793018-55793019,
	57316559, 57320313, 60571670-60571672, 60952349-60952350,
	60952993, 61535962-61535964, 62592910, 625936/2, 62596563, 62507356, 62600216, 62140756, 62140756, 62141512, 62141514
	0239/323, 02000213, 03140/31-03140/32, 03141313-03141314, 63144404 63026363, 63220253, 63670246, 6307517, 63075407
	65576815. 65925948. 66146215. 67860503-67860504. 68711104.
	69100751, 69176705, 69189596-69189598, 69190358-69190360,
	69974439, 69975201, 70656792, 72217315, 72801392, 72992581-72992582,
	73626901-73626902, 75004819, 78164515, 78167178, 7816785,
	78307369, 78415033-78415034, 78693137, 79145838, 79146544-79146546,
	79744714, 79745420, 79748084, 79748790, 79901007, 80691204-80691205,
	82083870-82083872, 83739051-83739052, 84411502, 84553520,
	85181194, 85418740, 87197252, 88020545-88020546, 88021216,
	88023/52, 88024422, 880/1013-880/1014, 88/55/30, 89294003,
	92/41340-932/41349, 92/43/44-92/43/43, 9401/990, 939293/2-939293/3, 07360221 07465310 0068572 100687317 100680503
	102205339, 103403045, 104768238, 105073641, 105638643.
	106115226, 106115791, 106117947, 106118512, 106120668,
	106121233, 106122698, 106123954-106123955, 106125419-106125420,
	106125984-106125985, 106128141, 106128706, 106186051,
	106936608, 107133037, 107276378, 108007258, 109270108,
	109270673, 109272829, 109273394, 109275550, 109319902,
	110072175, 111250371, 111251549, 111485059, 112587333,
	112588682-112588684, 114286586, 114359887, 115110935,
	117178002 117178850 117180340_117180241 117191500
	117182678-117182680, 117183926, 117184417, 117186264-117186265.
	117186755, 117188602-117188604, 117189093, 117190341,
	117193170, 117195017-117195018, 117195508, 117197355-117197357,
	117197846, 117199094, 117199584, 117201432, 117201922-117201923,
	117203770, 117204260-117204262, 117205508, 117206599,
	117207846-117207848, 117208337, 117210185, 117210675,
	11/212523, 117213013-117213014, 117214261, 117215352,
	117217090, 117218938, 117219428-117219429, 117221276, 117201766, 117201760, 117202014, 117202066, 117205250, 117205254
	II/ZZI/00-II/ZZI/00, II/ZZ3UI4, II/ZZ3U5, II/ZZ535Z-II/ZZ5354, 117225843 117227601 117228181 117220420 117230510_117230520
	117231767, 117232258, 117234105-117234106, 117234596
	117236444, 117236934, 117238182, 117239272-117239273.
	117240520, 117241011, 117242858-117242859, 117245687-117245688,
	117246935, 117247426, 117249273-117249274, 117249764,
	117251612, 117252102, 117253350, 117254440-117254441,
	117255688, 117256179, 117258026-117258027, 117258517,
	117260365, 117260855, 117262103, 117263193-117263194,
	117264441, 117264932, 117266779-117266780, 117267270,

Test Case DA-0)9-RETRY-SATA F	-TALON V2.4	3				
	117269118, 117	7269608, 11	7270856, 117	271946-117	271947,		
	117275533, 11	7276023, 11	7277871 , 117	278361-117	278363 ,		
	117279609, 11	7280100, 11	7281947-1172	81948, 117	282438,		
	117284286, 117284776, 117286024, 117287114-117287116,						
	117288362, 117288853, 117290700-117290702, 117291191,						
	117293039, 117293529, 117294777, 117295867-117295869,						
	11/29/115, 11	/29/606, II	/299453-11/2	99455, 119	655644		
	Source (12010.	3200) has 30	0198288 Iewe	r sectors	than desti	nation (15630148	(8)
	Zero IIII:	(35)	0				
	Src Byte IIII	(ED):	0				
	Other fill:	(22): 30190	0				
	Other no fill		0				
	Zero fill ran		0				
	Src fill range						
	Dst fill range	e: 12010320	0-156301487				
	Other fill ran	nge:					
	Other not fill	Led range:					
	0 source read	errors, 0 d	destination	read error	S		
	**** FORI	ENSIC TALON	Serial SESSION S	No.: 15881 ETTINGS	Software	: V2.43 ****	
	Operating N	Mode: Captur	re	Address M	ode: LBA		
	Verify	: HW-MDS	5	Speed	: PIO-AU	JTO	
	Connection	: Direct	t				
	-	100% MIRROR	COPY OF THE	SUSPECT D	RIVE HAS BI	EEN	
		SUCCESSFULI	LY EXECUTED	ON THE EVI	DENCE DRIVI	<u>.</u>	
	Operator	declined F	JLL and rema	inder Dest	ination Dr	ive erase!	
	********	· · · · · · · · · · · · · · · · · · ·	*** SOURCE	DRIVE *	-	* * * * * * * * * * * * * * * * * *	
	Dritte Mede	Pi Mawtan G	nysical Char ZOGOMO	acteristic	S		
	DIIVE Mode. Seria	L: Maxtor 6. L: V22H.TL7C	100010				
	Culinder	Heads	Sectors	Total S	ectors	Drive Size	
	119150) 16	63	120103	200	57.3 GB	
	Comput	ced MD5 Valu	ue: E288054C	AA3E56B1	218FBD8E A:	2EEB940	
	Recovered &	Sectors: 0	Unre	covered/Sk	ipped Secto	ors: 468	
	* * * * * * * * * * * * *	* * * * * * * * * * *	* DESTINAT	ION DRIVE	******	* * * * * * * * * * * * * * *	
		Pl	nysical Char	acteristic	s		
	Drive Mode	L: ST3800132	AS				
	Seria	L: 5JVCQ731					
	Cylinders	s Heads	Sectors	Total S	ectors	Drive Size	
	15506	L 16	63	156301	488	74.5 GB	
	Comput	ted SHA-256	Value: NON	ΙE			
	Skip	pped Sector	Addresses:				
	1344585	2594747	2595500	2599086	2599839	2809909	
	2809910	3422895	3422896	4116750	4120336	4120337	
	4121089	4121090	4696046	4698397	4703710	4707186	
	4708105	4/11580	4/12499	4/14850	4/15//0	4/19/45	
	4/23039	4723040	4724558	4724559	4728034	4728955	
	4/31304	4/32223	4/35699	4740093	4/41012	4/43363	
	4/4540/	4/480//	4/52152	4/3034/	4/3/400	4/3981/	
	4761600	4701001	4704211	4704212	4703130	4703131	
	4700000	4709525	4773001 5446046	4//J920	4//02/1 5/513/1	4///190 5/52260	
	5620120	5623595	5623596	5623597	5624514	5624515	
	5624516	5626865	5626866	5626867	5628909	5631260	
	5632179	5635655	5636574	5640049	6021518	6023869	
	6024788	6028263	7662307	8340091	8340092	12178157	
	12179060	12181370	12182273	12185687	12186590	12340277	
	13016906	13049575	13050477	13050478	14000022	14000762	
	10010900	14041240	101001111	100001/0	17070722	11000,02	
	14004285	14041/40	1/135988	17723611	1/8/0//0	18161032	
	14004285 18760155	20090856	20094289	17723611 20095011	20661414	18161032 21693295	
	14004285 18760155 21694174	20090856	17135988 20094289 22730717	17723611 20095011 22838734	20661414	18161032 21693295 24596104	
	14004285 18760155 21694174 24596105	20090856 21697502 24596106	17135988 20094289 22730717 26791779	17723611 20095011 22838734 27686030	20661414 22838735 28080041	18161032 21693295 24596104 28081995	
	14004285 18760155 21694174 24596105 29555383	14041240 20090856 21697502 24596106 29655054	20094289 22730717 26791779 30488210	17723611 20095011 22838734 27686030 30488211	20661414 22838735 28080041 32215323	18161032 21693295 24596104 28081995 32218669	
	14004285 18760155 21694174 24596105 29555383 33523139	14041240 20090856 21697502 24596106 29655054 33991449	17135988 20094289 22730717 26791779 30488210 35267814	17723611 20095011 22838734 27686030 30488211 37975363	20661414 22838735 28080041 32215323 38134596	18161032 21693295 24596104 28081995 32218669 38136734	
	14004285 18760155 21694174 24596105 29555383 33523139 38137571	20090856 21697502 24596106 29655054 33991449 38137572	17135988 20094289 22730717 26791779 30488210 35267814 38207258	17723611 20095011 22838734 27686030 30488211 37975363 38207259	20661414 22838735 28080041 32215323 38134596 38542983	18161032 21693295 24596104 28081995 32218669 38136734 38567425	
	14004285 18760155 21694174 24596105 29555383 33523139 38137571 38568109	14041240 20090856 21697502 24596106 29655054 33991449 38137572 39421072	17135988 20094289 22730717 26791779 30488210 35267814 38207258 39421909	17723611 20095011 22838734 27686030 30488211 37975363 38207259 39425071	20661414 22838735 28080041 32215323 38134596 38542983 40273501	18161032 21693295 24596104 28081995 32218669 38136734 38567425 42836488	
	14004285 18760155 21694174 24596105 29555383 33523139 38137571 38568109 42837172	14041240 20090856 21697502 24596106 29655054 33991449 38137572 39421072 42843548	17135988 20094289 22730717 26791779 30488210 35267814 38207258 39421909 42847497	17723611 20095011 22838734 27686030 30488211 37975363 38207259 39425071 42851446	17876726 20661414 22838735 28080041 32215323 38134596 38542983 40273501 42854557	18161032 21693295 24596104 28081995 32218669 38136734 38567425 42836488 43505180	

Test Case DA-	09-RETRY-SATA F-TALON V2.43					
	46221189 46296219 46296220 46528674 469	955925 47093653				
	48537000 48537662 49911188 49911189 510)17721 51769307				
	51769969 51994516 51994517 53855354 55	793018 55793019				
	57316559 57320313 60571670 60571671 605	571672 60952349				
	60952350 60952993 61535962 61535963 615	535964 62592910				
	62593672 62596563 62597325 62600215 633	40751 63140752				
	63141513 63141514 63144404 63226363 632	229253 63670246				
	63972517 63975497					
	Skipped Sectors: 468 Recovered Sectors:	0				
	Recovered Sectors: 0 Unrecovered/Skipped Sectors: 468					
	Skipped Sector Addresses:					
	Skipped Sectors: 468 Recovered Sectors: ()				
	3 different run lengths observed in 366 runs					
	287 runs of length 1					
	56 runs of length 2					
	23 runs of length 3					
	468 sectors differ					
	468 zero filled and 0 varying non-zero filled					
	Settings: error retry					
	speed PIO-AUTO					
Results:	Acception (Remoded Desult	Astrol Desult				
	Assertion & Expected Result	Actual Result				
	AM-01 Source acquired using interface AI.	as expected				
	AM-02 Source is type DS.	as expected				
	AM-03 Execution environment is XE.	as expected				
	AM-05 An image is created on file system type FS.	as expected				
	AM-06 All visible sectors acquired.	as expected				
	AM-08 All sectors accurately acquired.	as expected				
	AM-09 Error logged.	as expected				
	AM-10 Benign fill replaces inaccessible sectors.	as expected				
	AO-01 Image file is complete and accurate.	as expected				
	AO-05 Multifile image created.	as expected				
	AO-22 Tool calculates hashes by block.	option not tested				
	AO-23 Logged information is correct.	as expected				
	AO-23 Logged information is correct. AO-24 Source is unchanged by acquisition.	as expected not checked				
	AO-23 Logged information is correct. AO-24 Source is unchanged by acquisition.	as expected not checked				
	AO-23 Logged information is correct. AO-24 Source is unchanged by acquisition.	as expected not checked				

5.2.20 DA-09-SKIP-ATA

Case I Summary: Assertions: i Assertions: i I I I I I I I I I I I I I I I I I I I	DA-09 Acquire a digital source that has at least one faulty data sector. AM-01 The tool uses access interface SRC-AI to access the digital source. AM-02 The tool acquires digital source DS. AM-03 The tool executes in execution environment XE. AM-05 If image file creation is specified, the tool creates an image file on file system type FS. AM-06 All visible sectors are acquired from the digital source. AM-08 All sectors acquired from the digital source are acquired accurately. AM-09 If unresolved errors occur while reading from the selected digital source, the tool notifies the user of the error type and location within the digital source. AM-10 If unresolved errors occur while reading from the selected digital source, the tool uses a benign fill in the destination object in place of the inaccessible data. AO-01 If the tool creates an image file, the data represented by the image file is the same as the data acquired by the tool. AO-02 If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source. AO-23 If the tool logs any log significant information, the information is accurately recorded in the log file. AO-24 If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process.
Assertions:	AM-01 The tool uses access interface SRC-AI to access the digital source. AM-02 The tool acquires digital source DS. AM-03 The tool executes in execution environment XE. AM-05 If image file creation is specified, the tool creates an image file on file system type FS. AM-06 All visible sectors are acquired from the digital source. AM-08 All sectors acquired from the digital source are acquired accurately. AM-09 If unresolved errors occur while reading from the selected digital source, the tool notifies the user of the error type and location within the digital source. AM-10 If unresolved errors occur while reading from the selected digital source, the tool uses a benign fill in the destination object in place of the inaccessible data. A0-01 If the tool creates an image file, the data represented by the image file is the same as the data acquired by the tool. A0-05 If the tool creates a multi-file image of a requested size then all the individual files shall be no larger than the requested size. A0-22 If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source. A0-23 If the tool logs any log significant information, the information is accurately recorded in the log file. A0-24 If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process.
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	brl
	bri
Tester k Name:	
Test Host:	SamSpade
Test Date: N	Wed Nov 14 10:59:09 2007
Drives:	<pre>src(ED-BAD-CPR1) dst (80) other (none)</pre>
Source I Setup:	No before hash for ED-BAD-CPR1 120103200 total sectors (61492838400 bytes) Drive with known bad sectors Vendor: Maxtor Model: DiamondMax Plus 9 Known Bad Sector List for ED-CPR-BAD-1 Manufacturer: Maxtor Model: 6Y060L0 DiamondMax Plus 9 Serial Number: Y27KR6CE Capacity: 60GB Interface: PATA 54 faulty sectors 10069095, 10069911, 12023808, 18652594, 18656041, 18656857, 18660303, 18661119, 19746716-19746717, 22233904, 23098370, 23383001, 24102466- 24102467, 24104250, 24106656, 24107458, 28959971-28959972, 41825791, 41828995, 52654580, 52655318, 60522984, 68643842-68643843, 69973290, 72714626, 72715293, 82148809, 82148810, 83810525, 85310861, 85313430, 85314038-85314039, 86321211, 86323780, 87186066, 87856313, 87856922, 97191260-97191261, 100093150-100093151, 103861021, 109706975-109706976, 110347947, 110350122-110350123, 115664758, 115835518
Highlights:	156301488 sectors wiped with 80 Comparision of original to clone Drive Sectors compared: 120103200 Sectors match: 120103146 Sectors differ: 54 Bytes differ: 27594 Diffs range 10069095, 10069911, 12023808, 18652594, 18656041, 18656857, 18660303, 18661119, 19746716-19746717, 22233904, 23098370, 23383001, 24102466-24102467, 24104250,

Test Case DA-	09-SKIP-ATA F-TALON V2.43	
	52654580, 52655318, 60522984, 68643842-68643843, 69	973290,
	72714626, 72715293, 82148809-82148810, 83810525, 85	310861,
	85313430, 85314038-85314039, 86321211, 86323780, 87	186066,
	87856313, 87856922, 97191260-97191261, 100093150-10	0093151,
	103861021, 109706975-109706976, 110347947, 11035012	2-110350123,
	115664758, 115835518	
	Source (120103200) has 36198288 fewer sectors than	destination (156301488)
	Zero fill: 0	
	Src Byte fill (ED): 0	
	Dst Byte fill (80): 36198288	
	Other fill: 0	
	Other no fill: U	
	Zero IIII range:	
	STC IIII range: 120102200 156201407	
	Other fill range:	
	Other not filled range.	
	O source read errors O destination read errors	
	o source read errors, o descrination read errors	
	***** FORENSIC TALON Serial No.: 15881 Sof SESSION SETTINGS	tware: V2.43 *****
	Operating Mode: Capture Address Mode:	LBA
	Verify : None Speed :	PIO-AUTO
	Connection : Direct	
	100% MIRROR COPY OF THE SUSPECT DRIVE	HAS BEEN
	SUCCESSFULLY EXECUTED ON THE EVIDENCE	DRIVE!
	Operator declined FULL and remainder Destinati	on Drive erase!
	**************************************	* * * * * * * * * * * * * * * * * * * *
	Physical Characteristics	
	Drive Model: Maxtor 6Y060L0	
	Serial: Y27KR6CE	
	Cylinders Heads Sectors Total Sector	s Drive Size
	119150 16 63 120103200	57.3 GB
	Skipped Sectors: 54	
	SKIPPED SECLOIS: 34	* * * * * * * * * * * * * * * * * * * *
	Physical Characteristics	
	Drive Model: WDC WD800BB-00CAA1	
	Serial: WD-WCA8E5174999	
	Cvlinders Heads Sectors Total Sector	s Drive Size
	155061 16 63 156301488	74.5 GB
	Computed SHA-256 Value: NONE	
	Skipped Sector Addresses:	
	10069095 10069911 12023808 18652594 186	56041 18656857
	18660303 18661119 19746716 19746717 222	33904 23098370
	23383001 24102466 24102467 24104250 241	06656 24107458
	28959971 28959972 41825791 41828995 526	54580 52655318
	60522984 68643842 68643843 69973290 727	14626 72715293
	82148809 82148810 83810525 85310861 853	13430 85314038
	85314039 86321211 86323780 87186066 878	56313 87856922
	97191260 97191261 100093150 100093151 103	861021 109706975
	109/06976 110347947 110350122 110350123 115	664758 115835518
	Skipped Sectors: 54 Recovered Sectors:	U
	Skipped Sectors: 54	
	Skipped Sectors, 54 - Recovered Sectors, 0	
	2 different run lengths observed in 44 runs	
	34 runs of length 1	
	10 runs of length 2	
	54 sectors differ	
	54 zero filled and 0 varying non-zero filled	
	Settings: error skip	
	speed PIO-AUTO	
Results:		
	Assertion & Expected Result	Actual Result
	AM-01 Source acquired using interface AI.	as expected
	AM-02 Source is type DS.	as expected
	AM-03 Execution environment is XE.	as expected

Test Case DA-	09-SKIP-ATA F-TALON V2.43	
	AM-05 An image is created on file system type FS.	as expected
	AM-06 All visible sectors acquired.	as expected
	AM-08 All sectors accurately acquired.	as expected
	AM-09 Error logged.	as expected
	AM-10 Benign fill replaces inaccessible sectors.	as expected
	AO-01 Image file is complete and accurate.	as expected
	AO-05 Multifile image created.	as expected
	AO-22 Tool calculates hashes by block.	option not tested
	AO-23 Logged information is correct.	as expected
	A0-24 Source is unchanged by acquisition.	not checked
Analysis:	Expected results achieved	

5.2.21 DA-09-SKIP-SATA

Test Case DA-0	09-SKIP-SATA F-TALON V2.43
	43508342, 43872574, 43873411, 45217120, 45217121, 45777316,
	46221189, 46296219, 46296220, 46528674, 46955925, 47093653,
	48537000, 48537662, 49911188, 49911189, 51017721, 51769307,
	51769969, 51994516, 51994517, 53855354, 55793018, 55793019,
	57316559, 57320313, 60571670, 60571671, 60571672, 60952349,
	60952350, 60952993, 61535962, 61535963, 61535964, 62592910,
	62593672, 62596563, 62597325, 62600215, 63140751, 63140752,
	63141513, 63141514, 63144404, 63226363, 63229253, 63670246,
	63972517, 63975497, 65576815, 65925948, 66146215, 67860503,
	67860504, 68711104, 69100751, 69176705, 69189596, 69189597,
	69189598, 69190358, 69190359, 69190360, 69974439, 69975201,
	70656792, 72217315, 72801392, 72992581, 72992582, 73626901,
	73626902, 75004819, 78164515, 78167178, 78167885, 78307369,
	/8415033, /8415034, /8693137, /9145838, /9146544, /9146545,
	/9146546, /9/44/14, /9/45420, /9/48084, /9/48/90, /9901007,
	80891204, 80891203, 82083870, 82083871, 82083872, 83739031, 92730052, 9441150, 9453520, 95101104, 95419740, 97107252
	00120545 0000545 00001216 00022752 00024420 00011123
	807101/ 88755730 80021210, 80023/32, 80024422, 800/1013,
	027/37/5 0/11708 0502570 520573 0736021 0745310
	9685572 10687317 10689593 10225339 103403045
	104768238, 105074641, 105638643, 106115226, 106115791,
	106117947, 106118512, 106120668, 106121233, 106122698,
	106123954, 106123955, 106125419, 106125420, 106125984,
	106125985, 106128141, 106128706, 106186051, 106936608,
	107133037, 107276378, 108007258, 109270108, 109270673,
	109272829, 109273394, 109275550, 109319902, 110072175,
	111250371, 111251549, 111485059, 112587333, 112588682,
	112588683, 112588684, 114286586, 114359887, 115110935,
	116807008, 116807009, 116808918, 117175664, 117177512,
	117178002, 117179850, 117180340, 117180341, 117181588,
	117182678, 117182679, 117182680, 117183926, 117184417,
	117186264, 117186265, 117186755, 117188602, 117188603,
	11/188604, 11/189093, 11/190341, 11/1931/0, 11/19501/,
	11/195018, 11/19508, 11/19/355, 11/19/356, 11/19/357,
	11/19/040, 11/199094, 11/19904, 11/201432, 11/20192, 11/20192, 11/2
	117201723, 11720570, 117204200, 117204201, 117204202, 10
	1172018337 117210185 117210675 117212523 117213013
	117213014, 117214261, 117215352, 117217090, 117218938,
	117219428, 117219429, 117221276, 117221766, 117221767,
	117221768, 117223014, 117223505, 117225352, 117225353,
	117225354, 117225843, 117227691, 117228181, 117229429,
	117230519, 117230520, 117231767, 117232258, 117234105,
	117234106, 117234596, 117236444, 117236934, 117238182,
	117239272, 117239273, 117240520, 117241011, 117242858,
	117242859, 117245687, 117245688, 117246935, 117247426,
	117249273, 117249274, 117249764, 117251612, 117252102,
	117253350, 117254440, 117254441, 117255688, 117256179,
	117258026, 117258027, 117258517, 117260365, 117260855,
	117262103, 117263193, 117263194, 117264441, 117264932,
	117266779, 117266780, 117267270, 117269118, 117269608,
	117270856, 117271946, 117271947, 11727533, 117276023,
	11/2//8/1, 11/2/8361, 11/2/8362, 11/2/863, 11/2/9609,
	11/201100, 11/20194/, 11/201946, 11/20230, 11/204200,
	11/204//0, 11/20024, 11/20/114, 11/20/115, 11/20/110, 11/20/10, 11/20/202
	117201101 117203030 117203020 117204777 117205867
	1172915868, 117295869, 117297115, 117297606, 117299453.
	117299454, 117299455, 119655644
Log	Destination setup
Highlights:	156301488 sectors wiped with 23
	Comparision of original to clone Drive
	Sectors compared: 120103200
	Sectors differ: 468
	Bytes differ: 239148
	Diffs range 1344585, 2594747, 2595500, 2599086, 2599839,

Test Case DA-09-SKIP-SATA F-TALON V2.43	
2809909-2809910, 3422895-3422896, 4116750, 4120336-4120337,	
4121089-4121090, 4696046, 4698397, 4703710, 4707186,	
4708105, 4711580, 4712499, 4714850, 4715770, 4719245,	
4723639-4723640, 4724558-4724559, 4728034, 4728953,	
4731304, 4732223, 4735699, 4740093, 4741012, 4743363,	
4745407, 4748677, 4752152, 4756547, 4757466, 4759817,	
4/61860-4/61861, 4/64211-4/64212, 4/65130-4/65131,	
4/08006, 4/09323, 4//3001, 4//320, 4//62/1, 4///190,	
4/80665, 4/81584, 5446946, 5448990, 5451341, 5452260,	
3020120, 3023393-3023397, 3024314-3024310, 3020003-302000/, 5620000, 5631260, 5632170, 5635655, 563674, 5640040	
6021518 602360 602478 602823 7662307 8340049,	
12178157, 12179060, 12181370, 12182273, 12186587, 12186590,	
12340277, 13016906, 13049575, 13050477-13050478, 14000022.	
14000762, 14004285, 14041240, 17135988, 17723611, 17876726,	
18161032, 18760155, 20090856, 20094289, 20095011, 20661414,	
21693295, 21694174, 21697502, 22730717, 22838734-22838735,	
24596104-24596106, 26791779, 27686030, 28080041, 28081995,	
29555383, 29655054, 30488210-30488211, 32215323, 32218669,	
33523139, 33991449, 35267814, 37975363, 38134596, 38136734,	
38137571-38137572, 38207258-38207259, 38542983, 38567425,	
38568109, 39421072, 39421909, 39425071, 40273501, 42836488,	
42837172, 42843548, 42847497, 42851446, 42854557, 43505180,	
43508342, 43872574, 43873411, 45217120-45217121, 45777316,	
46221189, 46296219-46296220, 46528674, 46955925, 47093653,	
48537000, 48537662, 49911188-49911189, 51017721, 51769307,	
51769969, 51994516-51994517, 53855354, 55793018-55793019,	
57316559, 57320313, 60571670-60571672, 60952349-60952350,	
60952993, 61535962-61535964, 62592910, 62593672, 62596563,	
6259/325, 62600215, 63140/51-63140/52, 63141513-63141514,	
63144404, 63226363, 63229253, 63670246, 63972517, 63975497,	
655/6815, 65925948, 66146215, 67860503-67860504, 68711104,	
69100/51, 691/6/05, 69189596-69189598, 69190358-69190360,	
699/4439, 699/5201, /0656/92, /221/315, /2801392, /2992581-/2992582,	
/3020901-/3020902, /3004019, /8104013, /810/1/6, /810/885, 70207360 7041603 70416034 70602127 70146094 70146644 70146646	
/830/309, /8413035-/8413034, /809313/, /9143836, /9140344-/9148340, 70744714, 7074640, 70746904, 70746700, 70001007, 90601204, 90601205	
2008270_2002270_20051_2373051_2373052_20411500_20555520	
85181104 85118740 8718752 88020545 88020546 88021216	
88023752, 8802422, 88071013-88071014, 88755730, 89294003.	
92741348-92741349, 92743744-92743745, 94017998, 95929572-95929573.	
97369221, 97485310, 99685572, 100687317, 100689593,	
102205339, 103403045, 104768238, 105074641, 105638643,	
106115226, 106115791, 106117947, 106118512, 106120668,	
106121233, 106122698, 106123954-106123955, 106125419-106125420,	
106125984-106125985, 106128141, 106128706, 106186051,	
106936608, 107133037, 107276378, 108007258, 109270108,	
109270673, 109272829, 109273394, 109275550, 109319902,	
110072175, 111250371, 111251549, 111485059, 112587333,	
112588682-112588684, 114286586, 114359887, 115110935,	
116807008-116807009, 116808918, 117175664, 117177512,	
117178002, 117179850, 117180340-117180341, 117181588,	
117182678-117182680, 117183926, 117184417, 117186264-117186265,	
117186755, 117188602-117188604, 117189093, 117190341,	
117193170, 117195017-117195018, 117195508, 117197355-117197357,	
117197846, 117199094, 117199584, 117201432, 117201922-117201923,	
11/203//0, 11/204260-11/204262, 11/205508, 11/206599,	
11/20/846-11/20/848, 11/2083/, 11/210185, 11/2106/5,	
II/ZIZZZZ, II/ZIZUIJ-II/ZIZUI4, II/ZI4Z01, II/ZI5352, 117217000 117210020 117210420 117210420 117201070	
II/21/U3U, II/210330, II/219420-II/219429, II/2212/0, 117221766_117221769 117223014 117223505 117225352_117225354	
117225843 117227641 117228181 117220426 11720512 11723532 11723589	
117231767, 117232258, 117234105, 11723476, 11723456	
117236444, 117236934, 117238182, 117239272-117239273.	
117240520, 117241011, 117242858-117242859, 117245688-	
117246935, 117247426, 117249273-117249274, 117249764,	
117251612, 117252102, 117253350, 117254440-117254441,	
117255688, 117256179, 117258026-117258027, 117258517,	
117260365, 117260855, 117262103, 117263193-117263194,	
117264441, 117264932, 117266779-117266780, 117267270,	

Test Case DA-()9-SKIP-SATA F-	TALON V2.43					
	117269118, 11	7269608, 11	7270856, 117	271946-117	271947,		
	117275533, 11	7276023, 11	7277871 , 117	278361-117	278363,		
	117279609, 11	7280100, 11	7281947-1172	81948, 117	282438,		
	117284286, 117284776, 117286024, 117287114-117287116,						
	117288362, 117288853, 117290700-117290702, 117291191,						
	117293039, 117293529, 117294777, 117295867-117295869,						
	117297115, 11	7297606, 11	7299453-1172	99455, 119	655644		
	Source (12010)	3200) has 30	5198288 fewe	er sectors	than destin	nation (15630148	8)
	Zero fill:		0				
	Src Byte fill	(ED):	0				
	Dst Byte fill	(23): 36198	3288				
	Other fill:		0				
	Other no fill	:	0				
	Zero fill rang	ge:					
	Src fill range	•••					
	Dst fill range	e: 12010320	00-156301487				
	Other fill rai	nge:					
	Other not III.	Led range:			-		
	U Source read	errors, 0 d	lestination	read error	5		
	+++++ 0001		Contol	No. 15001	0 . 5		
	FORI	INSIC TALON	Serial	NO.: 13881	Soltware	VZ.43	
	Operating 1	lada. Cantur	SESSION S	Adrees M	de. TDA		
	Vorifu	uode: captul	Le S	Address M	JUE: LBA	TΠO	
	Connection	· NW-MD.	-	speed	. F10-A	510	
	CONNECTION .	100% MIRROR	COPY OF THE		RIVE HAS BI	N EN	
	-	SUCCESSEUL	LY EXECUTED	ON THE EVI	NENCE DRIVI	151	
	Operator	declined F	ILL and rema	inder Dest	ination Dr	ve erasel	
	**********	*********	*** SOURCE	DRIVE *	********	******	
		Pl	nvsical Char	acteristic:	s		
	Drive Mode	L: Maxtor 63	2060M0		-		
	Seria	L: Y22HJL7C					
	Cylinders	s Heads	Sectors	Total S	ectors	Drive Size	
	11915) 16	63	120103	200	57.3 GB	
	Comput	ed MD5 Valu	le: E2880540	C AA3E56B1 2	218FBD8E A	2EEB940	
	-	2	Skipped Sect	ors: 468			
	*********	*******	* DESTINAI	ION DRIVE	******	* * * * * * * * * * * * * * * *	
		Pl	nysical Char	acteristic	S		
	Drive Mode	L: ST3800132	AS				
	Seria.	L: 5JVCYJCF					
	Cylinder	s Heads	Sectors	Total S	ectors	Drive Size	
	15506	L 16	63	156301	488	74.5 GB	
	Comput	ted SHA-256	Value: NON	IE			
	Skij	pped Sector	Addresses:	0.500000	0 - 0 0 0 0 0		
	1344585	2594747	2595500	2599086	2599839	2809909	
	2809910	3422895	3422896	4116750	4120336	4120337	
	4121089	4121090	4696046	4698397	4/03/10	4/0/186	
	4708105	4711580	4/12499	4714850	4/15//0	4/19245	
	4723039	4723040	4724550	4724339	4720034	4/20933	
	4/31304	4/32223	4/33099	4740093	4741012	4/43303	
	4743407	4/400//	4/JZIJZ	4750547	4/3/400	4/J901/	
	4761606	4761501	4704211	4704212	4705150	4703131	
	4780665	4709525	5116916	5//8990	5/513/1	5/52260	
	5620120	5623595	5623596	5623597	5624514	5624515	
	5624516	5626865	5626866	5626867	5628909	5631260	
	5632179	5635655	5636574	5640049	6021518	6023869	
	6024788	6028263	7662307	8340091	8340092	12178157	
	12179060	12181370	12182273	12185687	12186590	12340277	
	101/0000	12040575	13050477	13050478	14000022	14000762	
	13016906	130495/5					
	13016906 14004285	14041240	17135988	17723611	17876726	18161032	
	13016906 14004285 18760155	14041240 20090856	17135988 20094289	17723611 20095011	17876726 20661414	18161032 21693295	
	13016906 14004285 18760155 21694174	13049575 14041240 20090856 21697502	17135988 20094289 22730717	17723611 20095011 22838734	17876726 20661414 22838735	18161032 21693295 24596104	
	13016906 14004285 18760155 21694174 24596105	13049575 14041240 20090856 21697502 24596106	17135988 20094289 22730717 26791779	17723611 20095011 22838734 27686030	17876726 20661414 22838735 28080041	18161032 21693295 24596104 28081995	
	13016906 14004285 18760155 21694174 24596105 29555383	13049575 14041240 20090856 21697502 24596106 29655054	17135988 20094289 22730717 26791779 30488210	17723611 20095011 22838734 27686030 30488211	17876726 20661414 22838735 28080041 32215323	18161032 21693295 24596104 28081995 32218669	
	13016906 14004285 18760155 21694174 24596105 29555383 33523139	13049575 14041240 20090856 21697502 24596106 29655054 33991449	17135988 20094289 22730717 26791779 30488210 35267814	17723611 20095011 22838734 27686030 30488211 37975363	17876726 20661414 22838735 28080041 32215323 38134596	18161032 21693295 24596104 28081995 32218669 38136734	
	13016906 14004285 18760155 21694174 24596105 29555383 33523139 38137571	13049575 14041240 20090856 21697502 24596106 29655054 33991449 38137572	17135988 20094289 22730717 26791779 30488210 35267814 38207258	17723611 20095011 22838734 27686030 30488211 37975363 38207259	17876726 20661414 22838735 28080041 32215323 38134596 38542983	18161032 21693295 24596104 28081995 32218669 38136734 38567425	
	13016906 14004285 18760155 21694174 24596105 29555383 33523139 38137571 38568109	13049575 14041240 20090856 21697502 24596106 29655054 33991449 38137572 39421072	17135988 20094289 22730717 26791779 30488210 35267814 38207258 39421909	17723611 20095011 22838734 27686030 30488211 37975363 38207259 39425071	17876726 20661414 22838735 28080041 32215323 38134596 38542983 40273501	18161032 21693295 24596104 28081995 32218669 38136734 38567425 42836488	
	13016906 14004285 18760155 21694174 24596105 29555383 33523139 38137571 38568109 42837172	13049575 14041240 20090856 21697502 24596106 29655054 33991449 38137572 39421072 42843548	17135988 20094289 22730717 26791779 30488210 35267814 38207258 39421909 42847497	17723611 20095011 22838734 27686030 30488211 37975363 38207259 39425071 42851446	17876726 20661414 22838735 28080041 32215323 38134596 38542983 40273501 42854557	18161032 21693295 24596104 28081995 32218669 38136734 38567425 42836488 43505180	

Test Case DA-0	9-SKIP-SATA F-TALON	V2.43			
	46221189 462	96219 46296220	46528674	46955925	47093653
	48537000 485	37662 49911188	49911189	51017721	51769307
	51769969 519	94516 51994517	53855354	55793018	55793019
	57316559 5733	20313 60571670	60571671	60571672	60952349
	60952350 609	52993 61535962	61535963	61535964	62592910
	62593672 625	96563 62597325	62600215	63140751	63140752
	63141513 631	41514 63144404	63226363	63229253	63670246
	63972517 639	75497			
	Skipped S	ectors: 468 Red	covered Secto	rs: 0	
		Skipped Sect	cors: 468		
	Skipped S	ector Addresses:			
	Skipped Se	ctors: 468 Reco	overed Sector	s: 0	
	3 different run le	ngths observed in	n 366 runs		
	287 runs of length	1			
	56 runs of length	2			
	23 runs of length	3			
	468 sectors differ				
	468 zero filled and 0 varying non-zero filled				
	Settings: error skip				
	speed PIO-AUTO				
Results:					1 - 1
	Assertion & Expected Result			ACTU	al Result
	AM-01 Source acqu	ired using inter	tace Al.	as ex	pected
	AM-02 Source is t	ype DS.		as ex	pected
	AM-03 Execution e	nvironment is XE	•	as ex	pected
	AM-05 An image is created on file system type FS.			FS. as ex	pected
	AM-06 All visible sectors acquired.				
	AM-06 All visible	sectors acquire	d.	as ex	pected
	AM-06 All visible AM-08 All sectors	sectors acquire accurately acqu	d. ired.	as ex as ex	pected pected
	AM-06 All visible AM-08 All sectors AM-09 Error logge	sectors acquire accurately acqu	d. ired.	as ex as ex as ex	pected pected pected
	AM-06 All visible AM-08 All sectors AM-09 Error logge AM-10 Benign fill	sectors acquire accurately acqu d. replaces inacce	d. ired. ssible sector	as ex as ex as ex s. as ex	pected pected pected pected
	AM-06 All visible AM-08 All sectors AM-09 Error logge AM-10 Benign fill AO-01 Image file	sectors acquire accurately acqu d. replaces inacce is complete and	d. ired. ssible sector accurate.	as ex as ex as ex s. as ex as ex	pected pected pected pected pected
	AM-06 All visible AM-08 All sectors AM-09 Error logge AM-10 Benign fill AO-01 Image file AO-05 Multifile i	sectors acquired accurately acqu d. replaces inacce is complete and mage created.	d. ired. ssible sector accurate.	as ex as ex as ex s. as ex as ex as ex as ex	pected pected pected pected pected pected
	AM-06 All visible AM-08 All sectors AM-09 Error logge AM-10 Benign fill AO-01 Image file AO-05 Multifile i AO-22 Tool calcul	sectors acquire accurately acqu d. replaces inacce is complete and mage created. ates hashes by b	d. ired. ssible sector accurate. lock.	as ex as ex as ex s. as ex as ex as ex as ex optio	pected pected pected pected pected pected n not tested
	AM-06 All visible AM-08 All sectors AM-09 Error logge AM-10 Benign fill AO-01 Image file AO-05 Multifile i AO-22 Tool calcul AO-23 Logged info	sectors acquire accurately acqu d. replaces inacce is complete and mage created. ates hashes by b rmation is corre	d. ired. ssible sector accurate. lock. ct.	as ex as ex as ex s. as ex as ex as ex optio as ex	pected pected pected pected pected n not tested pected
	AM-06 All visible AM-08 All sectors AM-09 Error logge AM-10 Benign fill AO-01 Image file AO-05 Multifile i AO-22 Tool calcul AO-23 Logged info AO-24 Source is u	sectors acquire accurately acqu d. replaces inacce is complete and mage created. ates hashes by b rmation is corre- nchanged by acqu	d. ired. ssible sector accurate. lock. ct. isition.	as ex as ex as ex s. as ex as ex as ex optio as ex not c	pected pected pected pected pected n not tested pected hecked
	AM-06 All visible AM-08 All sectors AM-09 Error logge AM-10 Benign fill AO-01 Image file AO-05 Multifile i AO-22 Tool calcul AO-23 Logged info AO-24 Source is u	sectors acquire accurately acqu d. replaces inacce is complete and mage created. ates hashes by b rmation is corre- nchanged by acqu	d. ired. ssible sector accurate. lock. ct. isition.	as ex as ex as ex as ex as ex as ex optio as ex not c	pected pected pected pected pected n not tested pected hecked
	AM-06 All visible AM-08 All sectors AM-09 Error logge AM-10 Benign fill AO-01 Image file AO-05 Multifile i AO-22 Tool calcul AO-23 Logged info AO-24 Source is u	sectors acquire accurately acqu d. replaces inacce is complete and mage created. ates hashes by b rmation is corre- nchanged by acqu	d. ired. ssible sector accurate. lock. ct. isition.	as ex as ex as ex as ex as ex as ex optio as ex not c	pected pected pected pected pected n not tested pected hecked

5.2.22 DA-12

Test Case DA-	12 F-TALON V2.43			
Case Summary:	DA-12 Attempt to create an image file where there i	s insufficient space.		
Assertions:	AM-01 The tool uses access interface SRC-AI to acce AM-02 The tool acquires digital source DS. AM-03 The tool executes in execution environment XE AM-05 If image file creation is specified, the tool on file system type FS. AO-04 If the tool is creating an image file and the on the image destination device to contain the imag notify the user. AO-23 If the tool logs any log significant informat accurately recorded in the log file. AO-24 If the tool executes in a forensically safe e the digital source is unchanged by the acquisition	ss the digital source. creates an image file re is insufficient space e file, the tool shall ion, the information is xecution environment, process.		
Tester Name:	brl			
Test Host:	Athos			
Test Date:	Thu Nov 1 12:45:21 2007			
Drives:	<pre>src(07-SATA) dst (none) other (13-IDE)</pre>	1		
Source	src hash (SHAI): < 655E9BDDB36A3F9C5C4CC8BF32B8C5B4	1AF9F52E >		
beeup.	156301488 total sectors (80026361856 bytes) Model (WDC WD800.ID-32HK) serial # (WD-WMA.191510044)			
	N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 156280257 0000/001/01 1023/254/63 Boot 07 NTFS 2 P 00000000 0000/000/00 0000/000/00 00 empty entry 3 P 00000000 0000/000/00 0000/000/00 00 empty entry			
	4 P 000000000 00000000 0000/000/00 0000/000/00 1 156280257 sectors 80015491584 bytes	00 empty entry		
Log Highlights:	No Log file found (da-12) Screen message:			
	Error Capturing Drive!	some files and/or de-		
	Not enough room on drive to iit data. Please remove some lifes and/or de-			
	Settings: error skip			
	speed UDMA-5			
Results:				
	Assertion & Expected Result	Actual Result		
	AM-01 Source acquired using interface AI.	as expected		
	AM-02 Source is type DS.	as expected		
	AM-03 Execution environment is XE.	as expected		
	AM-05 An image is created on file system type FS.	as expected		
	AO-04 User notified if space exhausted.	as expected		
	AO-23 Logged information is correct.	as expected		
	AO-24 Source is unchanged by acquisition.	as expected		
Analysis:	Expected results achieved			

5.2.23 DA-19

Test Case DA	-19 F-TALON V2.43	
Case Summary:	DA-19 Acquire a physical device to an unaligned clone, filling excess sectors.	
Assertions:	 AM-01 The tool uses access interface SRC-A1 to access the digital source. AM-02 The tool acquires digital source DS. AM-03 The tool executes in execution environment XE. AM-04 If clone creation is specified, the tool creates a clone of the digital source. AM-06 All visible sectors are acquired from the digital source. AM-08 All sectors acquired from the digital source are acquired accurately. AO-11 If requested, a clone is created during an acquisition of a digital source. AO-13 A clone is created using access interface DST-AI to write to the clone device. AO-14 If an unaligned clone is created, each sector written to the clone is accurately written to the same disk address on the clone that the sector occupied on the digital source. AO-18 If requested, a benign fill is written to excess sectors of a clone. AO-22 If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source. AO-23 If the tool logs any log significant information, the information is accurately recorded in the log file. AO-24 If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process. 	
Tester	brl	
Test Host:	Max	
Test Date:	Thu Nov 1 13:11:07 2007	
Drives:	src(41) dst (22-SATA) other (none)	
Source	<pre>src hash (SHA256): <</pre>	
	<pre>src hash (SHA1): < 15CAA1A307271160D8372668BF8A03FC45A51CC9 > src hash (MD5): < 0A6A8EF78BDC14E2026710D8CCB5607C > 78125000 total sectors (4000000000 bytes) 65534/015/63 (max cyl/hd values) 65535/016/63 (number of cyl/hd) IDE disk: Model (WDC WD400BB-75JHC0) serial # (WD-WMAMC4658355) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 00000063 078107967 0000/001/01 1023/254/63 Boot 07 NTFS 2 P 00000000 00000000 0000/000/00 000/000/</pre>	
Log Highlights:	Destination setup 156301488 sectors wiped with 22	
	Comparision of original to clone Drive Sectors compared: 78125000 Sectors match: 78125000 Sectors differ: 0 Bytes differ: 0 Diffs range Source (78125000) has 78176488 fewer sectors than destination (156301488) Zero fill: 78176488 Src Byte fill (41): 0 Dst Byte fill (22): 0 Other fill: 0 Other fill: 0 Zero fill range: 78125000-156301487 Src fill range: 78125000-156301487 Src fill range: 0 Dst fill range: 0 Other not filled range: 0 Source read errors, 0 destination read errors	

Test Case DA-19 F-TALON V2.43				
	***** FORENSIC TALON Serial No.: 15881	Software: V2.43 *****		
	SESSION SETTINGS			
	Operating Mode: Capture Address Mode: LBA			
	Verify : HW-MD5 Speed	: UDMA-4		
	Connection : Direct			
	100% MIRROR COPY OF THE SUSPECT DRIVE HAS BEEN			
	SUCCESSFULLY EXECUTED ON THE EVIDENCE DRIVE!			
	Operator declined FULL Dest. Drive erase and erased remainder!			

	Physical Characteristics			
	Drive Model: WDC WD400BB-/5JHC0			
	Serial: WD-WMAMC4658355			
	Cylinders Heads Sectors Total Sectors Drive Size			
	7/504 16 63 78125000 37.3 GB			
	Computed MDS Value: 0A6A82E7 8B0C14E2 026710D8 CCB5607C			
	Design Characteristics			
	Physical Characteristics			
	Culinders Heads Sectors Total Sectors Drive Size			
	155061 16 63 156301	488 74.5 GB		
	Computed SHA-256 Value: NONE			
	Skipped Sectors: 0			
	Settings: error skip			
	speed UDMA-5			
Results:				
	Assertion & Expected Result	Actual Result		
	AM-01 Source acquired using interface AI.	as expected		
	AM-02 Source is type DS.	as expected		
	AM-03 Execution environment is XE.	as expected		
	AM-04 A clone is created.	as expected		
	AM-06 All visible sectors acquired.	as expected		
	AM-08 All sectors accurately acquired.	as expected		
	AO-11 A clone is created during acquisition.	as expected		
	AO-13 Clone created using interface AI.	as expected		
	AO-14 An unaligned clone is created.	as expected		
	AO-18 Excess sectors are filled.	as expected		
	A0-22 Tool calculates hashes by block.	option not tested		
	AO-23 Logged information is correct.	as expected		
	A0-24 Source is unchanged by acquisition.	as expected		
		·		
Analysis:	Expected results achieved			

About the National Institute of Justice

NIJ is the research, development, and evaluation agency of the U.S. Department of Justice. NIJ's mission is to advance scientific research, development, and evaluation to enhance the administration of justice and public safety. NIJ's principal authorities are derived from the Omnibus Crime Control and Safe Streets Act of 1968, as amended (see 42 U.S.C. §§ 3721–3723).

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

Strategic Goals

NIJ has seven strategic goals grouped into three categories:

Creating relevant knowledge and tools

- 1. Partner with State and local practitioners and policymakers to identify social science research and technology needs.
- 2. Create scientific, relevant, and reliable knowledge—with a particular emphasis on terrorism, violent crime, drugs and crime, cost-effectiveness, and community-based efforts—to enhance the administration of justice and public safety.
- 3. Develop affordable and effective tools and technologies to enhance the administration of justice and public safety.

Dissemination

- 4. Disseminate relevant knowledge and information to practitioners and policymakers in an understandable, timely, and concise manner.
- 5. Act as an honest broker to identify the information, tools, and technologies that respond to the needs of stakeholders.

Agency management

- 6. Practice fairness and openness in the research and development process.
- 7. Ensure professionalism, excellence, accountability, cost-effectiveness, and integrity in the management and conduct of NIJ activities and programs.

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In addressing these strategic challenges, the Institute is involved in the following program areas: crime control and prevention, including policing; drugs and crime; justice systems and offender behavior, including corrections; violence and victimization; communications and information technologies; critical incident response; investigative and forensic sciences, including DNA; less-than-lethal technologies; officer protection; education and training technologies; testing and standards; technology assistance to law enforcement and corrections agencies; field testing of promising programs; and international crime control.

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