SEPT. 09

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Special **REPORT**

Test Results for Digital Data Acquisition Tool: EnCase 6.5

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Acting Director, National Institute of Justice

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Test Results for Digital Data Acquisition Tool:
EnCase 6.5

NIST
National Institute of
Standards and Technology
U.S. Department of Commerce

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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, U.S. Customs and Border Protection, 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 (http://www.cftt.nist.gov/) for review and comment by the computer forensics community.

This document reports the results from testing EnCase, version 6.5, 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 software packages and the CFTT tool methodology can be found on NIJ's computer forensics tool testing Web page, http://www.ojp.usdoj.gov/nij/topics/ecrime/cftt.htm.

Test Results for Digital Data Acquisition Tool

Tool Tested:	EnCase
Version:	6.5
Run Environments:	Windows XP, Windows Server 2003 & Windows 2000
Supplier:	Guidance Software, Inc.
Address:	215 North Marengo Ave. Pasadena, CA 91101
Tel:	626–229–9191
Fax:	626–229–9199
WWW:	http://www.guidancesoftware.com/

1 Results Summary

Except for four test cases (DA–07, DA–08, DA–09, and DA–14), the tested tool acquired all visible and hidden sectors completely and accurately from the test media without any anomalies. The following six anomalies were observed:

1. If a logical acquisition is made of an NTFS partition, a small number of sectors, seven in the executed test, appear in the image file twice, replacing seven other sectors that fail to be acquired (DA–07–NTFS).
2. If a logical acquisition is made of an NTFS partition, the last physical sector of the partition is not acquired (DA–07–NTFS).
3. If the tool attempts to acquire a defective sector with an error granularity greater than one sector, some readable sectors near the defective sector are replaced by zeros in the created image file (DA–09–02, DA–09–16, and DA–16–64).
4. HPA and DCO hidden sectors can be acquired completely if FastBlock SE is used as a write blocker (DA–08–ATA28) during an acquisition. However, use of some write blockers such as FastBlock FE that do not remove hidden areas prevent the acquisition of sectors hidden in an HPA or DCO (DA–08–ATA48 and DA–08–DCO).
5. For some partition types (FAT32 and NTFS) when imaged as a logical (partition) acquisition, if a logical restore is performed there may be a small number of differences in file system metadata between the image file and the restored partition (DA–14–F32, DA–14–F32X and DA–14–NTFS). The differences can be avoided by removing power from the destination drive instead of doing a normal power down sequence (DA–14–F32–ALT, DA–14–F32X–ALT, and DA–14–NTFS–ALT).
6. For some removable USB devices (Flash card and thumb drive) that have been physically acquired, there may be a small number of differences in file system metadata between the image file and the restored device (DA–14–CF and DA–14–THUMB).

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 EnCase and the linked test cases selected for execution. Table 2 lists the features not available in EnCase and the test cases not executed.

Table 1 Selected Test Cases

Supported Optional Feature	Cases selected for execution
Base Cases	06, 07 & 08
Destination Device Switching	13
Read error during acquisition	09
Create an image file in more than one format	10
Create a clone from an image file	14 & 17
Fill excess sectors on a clone device	22
Detect a corrupted (or changed) image file	24 & 25

Table 2 Omitted Test Cases

Unsupported Optional Feature	Cases omitted (not executed)
Create a clone during acquisition	01, 02 & 04
Create cylinder aligned clones	03, 15, 21 & 23
Insufficient space for image file	12
Convert an image file from one format to another	26
Device I/O error generator available	05, 11 & 18
Fill excess sectors acquired to a clone device	19 & 20
Create a clone from a subset of an image file	16

Some test cases have variant forms to accommodate parameters within test assertions. These variations cover the execution environment, acquisition interface to the source drive, and type of digital object acquired. Variations were also created for image file format.

The tool was executed in one of the following Microsoft runtime environments: Windows XP, Windows Server 2003, or Windows 2000. These run-time environments were varied across the test cases.

The following source interfaces were tested: ATA28, ATA48, network cable, USB, and FireWire. These are noted as variations on test cases DA–06, DA–14, and DA–08.

The following digital sources were tested in test cases DA–07 and DA–14: partitions (FAT12, FAT16, FAT32, FAT32X, and NTFS), partial drive acquire (as test case DA–06–PART), compact flash, and thumb drive. There are two FAT 32 variations testing acquisition of both FAT 32 partition codes 0x0B (FAT32) and 0x0C (FAT32X).

For test case DA–10 variations are executed for each alternate image file format supported by EnCase, best compression (BEST), password protected (PASWORD) and uncompressed (UNCOMPRESSED).

The image files were created on either NTFS or FAT32 partitions.

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 anomalies found for the assertion are discussed.

See section 2 for a discussion of source access interface, digital source, file system for image file and execution environment.

Table 3 Assertions Tested

Assertions Tested	Tests	Anomaly
AM–01 The tool uses access interface SRC–AI to access the digital source.	26	
AM–02 The tool acquires digital source DS.	26	
AM–03 The tool executes in execution environment XE.	51	
AM–05 If image file creation is specified, the tool creates an image file on file system type FS.	26	
AM–06 All visible sectors are acquired from the digital source.	26	3.2
AM–07 All hidden sectors are acquired from the digital source.	3	3.4
AM–08 All sectors acquired from the digital source are acquired accurately.	26	3.1, 3.3
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.	4	
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.	4	
AO–01 If the tool creates an image file, the data represented by the	26	

Assertions Tested	Tests	Anomaly
image file is the same as the data acquired by the tool.		
AO–02 If an image file format is specified, the tool creates an image file in the specified format.	3	
AO–04 If the tool is creating an image file and there is insufficient space on the image destination device to contain the image file, the tool shall notify the user.	1	
AO–05 If the tool creates a multifile image of a requested size then all the individual files shall be no larger than the requested size.	26	
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.	1	
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.	1	
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.	1	
AO–10 If there is insufficient space to contain all files of a multifile image and if destination device switching is supported, the image is continued on another device.	1	
AO–12 If requested, a clone is created from an image file.	23	
AO–13 A clone is created using access interface DST–AI to write to the clone device.	23	
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.	22	3.5, 3.6
AO–17 If requested, any excess sectors on a clone destination device are not modified.	13	
AO–18 If requested, a benign fill is written to excess sectors of a clone.	2	
AO–19 If there is insufficient space to create a 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.	1	
AO–23 If the tool logs any log significant information, the information is accurately recorded in the log file.	51	

Two test assertions only apply in special circumstances. The assertion AO–22 is checked only for tools that create block hashes. This assertion does not apply to EnCase. The assertion AO–24 is only checked if the tool is executed in a runtime environment that does not modify attached storage devices, such as MS DOS. A write blocker was used during the tests, so assertion AO–24 was not 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
AM–04 If clone creation is specified, the tool creates a clone of the digital source.
AO–03 If there is an error while writing the image file, the tool notifies the user.
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.
AO–11 If requested, a clone is created during an acquisition of a digital source.
AO–15 If 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 clone device relative to the start of the span as the sector occupied on the original digital source. A span of sectors is 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 unallocated sectors, are not mountable partitions.
AO–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.
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–24 If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process.

3.1 Logical Acquisition of NTFS Data Duplication

Seven sectors (27,744,184–27,744,190) were not imaged correctly into the image file (DA–07–NTFS). The seven sectors were replaced in the image file by the content of seven other sectors (27,744,120–27,744,126). The actual content of sectors 27,744,184–27,744,190 was not acquired. This result was verified by constructing a dd style image file that hashed to the same value as reported by the EnCase acquisition.

3.2 Logical Acquisition of NTFS Last Sector Omitted

The last physical sector of the NTFS partition was not acquired (DA–07–NTFS). The partition has 27,744,192 sectors. EnCase acquired the first 27,744,191 sectors.

3.3 Acquisition of Faulty Sectors

EnCase 6 allows specification of an error granularity that specifies the size of a window surrounding any encountered faulty sectors such that for any faulty sectors encountered the sectors within the window surrounding the faulty sector are replaced by zeros in the created image file. Variations of test case DA–09 were executed with error granularities of 1, 2, 16 and 64. Variations DA–09–01, DA–09–02, and DA–09–16 were executed using a hardware write blocker and variation DA–09–64 was executed with FastBloc SE (a software write blocker).

Variation DA–09–01 acquired all readable sectors and filled the faulty sectors' place in the image file with zeros (expected behavior). Variations DA–09–02 and DA–09–16

acquired, with the exception of readable sectors within granularity blocks surrounding faulty sectors, all readable sectors. This is the behavior intended for the tool by the software vendor.

3.4 Acquisition of Hidden Sectors

HPA and DCO hidden sectors can be acquired completely if FastBlock SE is used as a write blocker (DA–08–ATA28) during an acquisition. However, the use of some write blockers such as FastBlock FE that do not remove hidden areas prevent the acquisition of sectors hidden in an HPA or DCO (DA–08–ATA48 and DA–08–DCO).

3.5 Alternate Restore Procedure

For certain partition types (FAT32 and NTFS), a logical restore of a partition does not produce an exact duplicate of the original (DA–14–F32, DA–14–F32X, and DA–14–NTFS). The vendor documentation states that a logical restore cannot be verified as being an exact copy of the source and is not recommended when seeking to create a bit-stream duplicate of the source. For FAT32 partitions, two file system control values (not part of any data file) are adjusted as a side effect of restoring an image to a destination. This adjustment is confined to about 8 bytes of sector 1, the first sector of the partition FAT table, and to the first sector of the partition FAT table backup copy. For NTFS partitions, changes were made to about 40 sectors of the partition. In no case was there any effect on sectors used in data files. All sectors of the image file accurately reflected the original sectors. These changes to a restored partition (logical volume) may be a consequence of the Windows shutdown process.

One procedure to avoid this behavior is to remove power to the system without allowing Windows to do a normal shutdown. Because powering off the entire system suddenly could compromise the integrity of other files on the system, NIST modified this procedure to power off only the destination drive and then follow the normal Windows shutdown procedure. The result of the modified procedure was to eliminate the anomaly from the restored copy while maintaining the integrity of the remainder of the file system. The modified procedure was used for tests DA–14–F32–ALT, DA–14–F32X–ALT, and DA–14–NTFS–ALT.

3.6 USB Removable Devices

For some removable USB devices (Flash card and thumb drive) that have been physically acquired, there may be a small number of differences in file system metadata between the image file and the restored device (DA–14–CF and DA–14–THUMB). In no case was there any effect on sectors used in data files. All sectors of the image file accurately reflected the original sectors (the hash value of the acquisition matches the hash value of the source device). These changes to a restored removable device may be a consequence of the Windows shutdown process.

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.

4.1 Test Computers

Four test computers were used.

Frank, Freddy, Joe, and **Max** have the following configuration:

Intel Desktop Motherboard D865GB/D865PERC (with ATA–6 IDE on board controller)
BIOS Version BF86510A.86A.0053.P13
Adaptec SCSI BIOS V3.10.0
Intel® Pentium™ 4 CPU 3.4Ghz
2577972KB RAM
SONY DVD RW DRU–530A, ATAPI CD/DVD–ROM drive
1.44 MB floppy drive
Two slots for removable IDE hard disk drives
Two slots for removable SATA hard disk drives
Two slots for removable SCSI hard disk drives

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: http://www.cftt.nist.gov/diskimaging/fs-tst20.zip.

4.3 Test Drive Creation

There are four ways that a hard drive may be used in a tool test case: as a boot drive that contains an operating system and the tool under test, 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 to which the tool under test restores an image file. 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 boot drive, the drive is formatted, an operating system is installed, and a copy of the tool under test is installed. The drive is then backed up and can be restored if needed.

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 test drive is initialized with **diskwipe** and then the faulty sectors are activated. For each test drive, 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–14) that create on a destination drive a restored version of a source drive from an image file, 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 restored version of the image of the bad sector drive.

For test cases such as DA–06, DA–07, and DA–10 the acquisition hash is compared to the reference hash of the source to check that the source is completely and accurately acquired. The image file is then used as the input to test case DA–14; the resulting destination drive or partition is then compared to the original source to verify that both the image file and the restored destination are complete and accurate.

For test case DA–09 a source drive with known faulty sectors is imaged and then restored to a destination drive. The FS–TST program **anabad** then compares the restored drive to the corresponding reference drive for the source drive imaged and any differences are noted. The **anabad** program reports on any sectors that differ and consequently on the contents used by the tool under test to replace sectors not 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.

4.6 Note on Write Blockers

Most test cases used one of the following write blockers:

```
FastBloc FE
FastBloc IDE
FastBloc LE
FastBloc SE
FastBloc2 FE
FastBloc2 LE
Tableau UltraBlock USB (T8)
UltraBlock Forensic Card Reader
WiebeTech Forensic ComboDock
```

Two test cases did not use a write blocker. Test case da–09–02 uses a source drive with no mountable partitions and is not silently modified by Windows. For test case da–06–NCAB the source is imaged via a network cable from a remote host booted into Linux and using LinEn to read the source drive.

5 Test Results

The main item of interest for interpreting the test results is determining the conformance of the tool under test with the test assertions. Conformance with each assertion tested by a given test case is evaluated by examining the **Log 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 *Digital Data Acquisition Tool 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

Heading	Description
	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:	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-06-ATA28

Test Case DA-06-ATA28 EnCase 6.5	
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:	mrmw
Test Host:	Max
Test Date:	Fri Jul 6 11:03:10 2007
Drives:	src(43) dst (none) other (01-fu)
Source Setup:	src hash (SHA256): < 2658F47603DE6B1D883B64823E9733F578658D08D06A4BB8C053C4F57BDC615E > src hash (SHA1): < 888E2E7F7AD237DC7A732281DD93F325065E5871 > src hash (MD5): < BC39C3F7EE7A50E77B9BA1E65A5AEEF7 > 78125000 total sectors (40000000000 bytes) Model (0BB-75JHC0) serial # (WD-WMAMC46588) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 020980827 0000/001/01 1023/254/63 0C Fat32X 2 X 020980890 057143205 1023/000/01 1023/254/63 0F extended 3 S 000000063 000032067 1023/001/01 1023/254/63 01 Fat12 4 x 000032130 002104515 1023/000/01 1023/254/63 05 extended 5 S 000000063 002104452 1023/001/01 1023/254/63 06 Fat16 6 x 002136645 004192965 1023/000/01 1023/254/63 05 extended 7 S 000000063 004192902 1023/001/01 1023/254/63 16 other 8 x 006329610 008401995 1023/000/01 1023/254/63 05 extended 9 S 000000063 008401932 1023/001/01 1023/254/63 0B Fat32 10 x 014731605 010490445 1023/000/01 1023/254/63 05 extended 11 S 000000063 010490382 1023/001/01 1023/254/63 83 Linux 12 x 025222050 004209030 1023/000/01 1023/254/63 05 extended 13 S 000000063 004208967 1023/001/01 1023/254/63 82 Linux swap 14 x 029431080 027712125 1023/000/01 1023/254/63 05 extended

Test Case DA-06-ATA28 EnCase 6.5

```
15 S 000000063 027712062 1023/001/01 1023/254/63      07 NTFS
16 S 000000000 000000000 0000/000/00 0000/000/00      00 empty entry
17 P 000000000 000000000 0000/000/00 0000/000/00      00 empty entry
18 P 000000000 000000000 0000/000/00 0000/000/00      00 empty entry
1 020980827 sectors 10742183424 bytes
3 000032067 sectors 16418304 bytes
5 002104452 sectors 1077479424 bytes
7 004192902 sectors 2146765824 bytes
9 008401932 sectors 4301789184 bytes
11 010490382 sectors 5371075584 bytes
13 004208967 sectors 2154991104 bytes
15 027712062 sectors 14188575744 bytes
```

Log Highlights:

```
Starting Extent:0S0
Actual Date:07/10/07 09:56:55AM
File Integrity:Completely Verified, 0 Errors
Acquisition Hash:bc39c3f7ee7a50e77b9ba1e65a5aeef7
Verify Hash:bc39c3f7ee7a50e77b9ba1e65a5aeef7
EnCase Version:6.5
System Version:Windows 2000
Error Granularity:64
Read Errors:0
CRC Errors:0
Total Size:40,000,000,000 bytes (37.3GB)
Total Sectors:78,125,000
Settings: fill none
size CD
Write Block: 4 FastBloc IDE
```

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 available
AO-23 Logged information is correct.	as expected
AO-24 Source is unchanged by acquisition.	not checked

Analysis: Expected results achieved

5.2.2 DA-06-ATA48

<table>
<tr><td colspan="2">Test Case DA-06-ATA48 EnCase 6.5</td></tr>
<tr><td>Case Summary:</td><td>DA-06 Acquire a physical device using access interface AI to an image file.</td></tr>
<tr><td>Assertions:</td><td>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.</td></tr>
<tr><td>Tester Name:</td><td>mrmw</td></tr>
<tr><td>Test Host:</td><td>Frank</td></tr>
<tr><td>Test Date:</td><td>Wed Aug 1 08:08:57 2007</td></tr>
<tr><td>Drives:</td><td>src(4C) dst (none) other (04-FU)</td></tr>
<tr><td>Source Setup:</td><td>src hash (SHA1): < 8FF620D2BEDCCAFE8412EDAAD56C8554F872EFBF >
src hash (MD5): < D10F763B56D4CEBA2D1311C61F9FB382 >
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)
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 000000000 0000/000/00 0000/000/00 00 empty entry
3 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry
4 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry
1 390700737 sectors 200038777344 bytes</td></tr>
<tr><td>Log Highlights:</td><td>Start: 07/31/07 08:25:56AM
Acquisition Hash: D10F763B56D4CEBA2D1311C61F9FB382
Settings: size FAT(2000)
Write Block: 4 FastBloc IDE</td></tr>
<tr><td>Results:</td><td>
<table>
<tr><th>Assertion & Expected Result</th><th>Actual Result</th></tr>
<tr><td>AM-01 Source acquired using interface AI.</td><td>as expected</td></tr>
<tr><td>AM-02 Source is type DS.</td><td>as expected</td></tr>
<tr><td>AM-03 Execution environment is XE.</td><td>as expected</td></tr>
<tr><td>AM-05 An image is created on file system type FS.</td><td>as expected</td></tr>
<tr><td>AM-06 All visible sectors acquired.</td><td>as expected</td></tr>
<tr><td>AM-08 All sectors accurately acquired.</td><td>as expected</td></tr>
<tr><td>AO-01 Image file is complete and accurate.</td><td>as expected</td></tr>
<tr><td>AO-05 Multifile image created.</td><td>as expected</td></tr>
<tr><td>AO-22 Tool calculates hashes by block.</td><td>option not available</td></tr>
<tr><td>AO-23 Logged information is correct.</td><td>as expected</td></tr>
<tr><td>AO-24 Source is unchanged by acquisition.</td><td>not checked</td></tr>
</table>
</td></tr>
<tr><td>Analysis:</td><td>Expected results achieved</td></tr>
</table>

5.2.3 DA-06-FLOPPY

Test Case DA-06-FLOPPY EnCase 6.5	
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:	mrmw
Test Host:	Freddy
Test Date:	Tue Jul 31 11:41:35 2007
Drives:	src(floppy) dst (none) other (01-FU)
Source Setup:	src hash (SHA1): < e2863334ac7eaabc7c8a0d62eb0d3b3af29f2c40 > src hash (MD5): < 17f6a5925be2f38eedaf435ff8b6a6f4 > Floppy disk
Log Highlights:	Start: 07/31/07 10:52:49AM Acquisition Hash: 17F6A5925BE2F38EEDAF435FF8B6A6F4 Settings: size CD (640MB)
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 available
AO-23 Logged information is correct.	as expected
AO-24 Source is unchanged by acquisition.	not checked

Analysis:	Expected results achieved

5.2.4 DA-06-FW

Test Case DA-06-FW EnCase 6.5	
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:	mrmw
Test Host:	Freddy
Test Date:	Wed Aug 1 10:12:16 2007
Drives:	src(01) dst (none) other (01-FU)
Source Setup:	src hash (SHA1): < A48BB5665D6DC57C22DB68E2F723DA9AA8DF82B9 > src hash (MD5): < F458F673894753FA6A0EC8B8EC63848E > 78165360 total sectors (40020664320 bytes) Model (0BB-00JHC0) serial # (WD-WMAMC74171) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 020980827 0000/001/01 1023/254/63 0C Fat32X 2 X 020980890 057175335 1023/000/01 1023/254/63 0F extended 3 S 000000063 000032067 1023/001/01 1023/254/63 01 Fat12 4 x 000032130 002104515 1023/000/01 1023/254/63 05 extended 5 S 000000063 002104452 1023/001/01 1023/254/63 06 Fat16 6 x 002136645 004192965 1023/000/01 1023/254/63 05 extended 7 S 000000063 004192902 1023/001/01 1023/254/63 16 other 8 x 006329610 008401995 1023/000/01 1023/254/63 05 extended 9 S 000000063 008401932 1023/001/01 1023/254/63 0B Fat32 10 x 014731605 010490445 1023/000/01 1023/254/63 05 extended 11 S 000000063 010490382 1023/001/01 1023/254/63 83 Linux 12 x 025222050 004209030 1023/000/01 1023/254/63 05 extended 13 S 000000063 004208967 1023/001/01 1023/254/63 82 Linux swap 14 x 029431080 027744255 1023/000/01 1023/254/63 05 extended 15 S 000000063 027744192 1023/001/01 1023/254/63 07 NTFS 16 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 17 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 18 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 1 020980827 sectors 10742183424 bytes 3 000032067 sectors 16418304 bytes 5 002104452 sectors 1077479424 bytes 7 004192902 sectors 2146765824 bytes 9 008401932 sectors 4301789184 bytes 11 010490382 sectors 5371075584 bytes 13 004208967 sectors 2154991104 bytes 15 027744192 sectors 14205026304 bytes
Log Highlights:	Starting Extent:0S0 Actual Date:08/01/07 09:41:02AM File Integrity:Completely Verified, 0 Errors Acquisition Hash:f458f673894753fa6a0ec8b8ec63848e Verify Hash:f458f673894753fa6a0ec8b8ec63848e EnCase Version:6.5 System Version:Windows XP Error Granularity:64 Read Errors:0 CRC Errors:0

Test Case DA-06-FW EnCase 6.5	
	Total Size:40,020,664,320 bytes (37.3GB) Total Sectors:78,165,360 Settings: size CD (640MB) fill none Write Block: 9 Fastbloc FE
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 available
AO-23 Logged information is correct.	as expected
AO-24 Source is unchanged by acquisition.	not checked

Analysis:	Expected results achieved

5.2.5 DA-06-NCAB-LINEN

Test Case DA-06-NCAB-LINEN EnCase 6.5	
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:	mrmw
Test Host:	Max
Test Date:	Fri Dec 21 08:43:52 2007
Drives:	src(c1-cf) dst (none) other (01-FU)
Source Setup:	src hash (SHA256): < C7CF0218222DF80D5316511D6814266C7FA507C13F795AD3D323BB73C1590D80 > src hash (SHA1): < 5B8235178DF99FA307430C088F81746606638A0B > src hash (MD5): < 776DF8B4D2589E21DEBCF589EDC16D78 > 503808 total sectors (257949696 bytes) Model (CF) 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
Log Highlights:	Start: 12/21/07 09:05:47AM Acquisition Hash: 776DF8B4D2589E21DEBCF589EDC16D78 Actual Date:12/21/07 09:05:47AM File Integrity:Completely Verified, 0 Errors Acquisition Hash:776df8b4d2589e21debcf589edc16d78 Verify Hash:776df8b4d2589e21debcf589edc16d78 EnCase Version:6.5 System Version:Windows 2000 Error Granularity:64 Read Errors:0 CRC Errors:0 Total Size:257,949,696 bytes (246MB) Total Sectors:503,808 Settings: size CD fill none Write Block: none
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

Test Case DA-06-NCAB-LINEN EnCase 6.5		
	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 available
	AO-23 Logged information is correct.	as expected
	AO-24 Source is unchanged by acquisition.	not checked
Analysis:	Expected results achieved	

5.2.6 DA-06-PART

<table>
<tr><th colspan="2">Test Case DA-06-PART EnCase 6.5</th></tr>
<tr><td>Case Summary:</td><td>DA-06 Acquire a physical device using access interface AI to an image file.</td></tr>
<tr><td>Assertions:</td><td>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.</td></tr>
<tr><td>Tester Name:</td><td>mrmw</td></tr>
<tr><td>Test Host:</td><td>Joe</td></tr>
<tr><td>Test Date:</td><td>Wed Sep 26 14:49:12 2007</td></tr>
<tr><td>Drives:</td><td>src(24-FU2) dst (none) other (06-FU)</td></tr>
<tr><td>Source Setup:</td><td>src hash (SHA1): < A78EDB5E90298D0CDF199B4B62119F81208A252A >
src hash (MD5): < 90311DDF672B8CBA0869A46F4A455A7E >
39070080 total sectors (20003880960 bytes)
19076/063/32 (max cyl/hd values)
19077/064/32 (number of cyl/hd)
Model (ATCS04-0) serial # (CSH206D9DSEL)</td></tr>
<tr><td>Log Highlights:</td><td>Start: 09/26/07 04:05:56PM
Acquisition Hash: 90311DDF672B8CBA0869A46F4A455A7E
Actual Date:09/26/07 04:05:56PM
File Integrity:Completely Verified, 0 Errors
Acquisition Hash:90311ddf672b8cba0869a46f4a455a7e
Verify Hash:90311ddf672b8cba0869a46f4a455a7e
EnCase Version:6.5
System Version:Windows XP
Error Granularity:64
Read Errors:0
CRC Errors:0
Total Size:20,003,880,960 bytes (18.6GB)
Total Sectors:39,070,080
Settings: size FAT (2000 MB)
fill none
Write Block: 18 UltraBlock USB</td></tr>
<tr><td>Results:</td><td>
<table>
<tr><th>Assertion & Expected Result</th><th>Actual Result</th></tr>
<tr><td>AM-01 Source acquired using interface AI.</td><td>as expected</td></tr>
<tr><td>AM-02 Source is type DS.</td><td>as expected</td></tr>
<tr><td>AM-03 Execution environment is XE.</td><td>as expected</td></tr>
<tr><td>AM-05 An image is created on file system type FS.</td><td>as expected</td></tr>
<tr><td>AM-06 All visible sectors acquired.</td><td>as expected</td></tr>
<tr><td>AM-08 All sectors accurately acquired.</td><td>as expected</td></tr>
<tr><td>AO-01 Image file is complete and accurate.</td><td>as expected</td></tr>
<tr><td>AO-05 Multifile image created.</td><td>as expected</td></tr>
<tr><td>AO-22 Tool calculates hashes by block.</td><td>option not available</td></tr>
<tr><td>AO-23 Logged information is correct.</td><td>as expected</td></tr>
<tr><td>AO-24 Source is unchanged by acquisition.</td><td>not checked</td></tr>
</table>
</td></tr>
<tr><td>Analysis:</td><td>Expected results achieved</td></tr>
</table>

5.2.7 DA-06-SCSI

Test Case DA-06-SCSI EnCase 6.5	
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:	mrmw
Test Host:	Joe
Test Date:	Thu Sep 27 10:45:17 2007
Drives:	src(2A) dst (none) other (06-FU)
Source Setup:	src hash (SHA256): < AE8E839101661367D92803D5F5D408268635EFD8A05FEA633838CDC3919F5ABA > src hash (SHA1): < F5F9F2903DCAB895F36E270FB22A722E27918125 > src hash (MD5): < 91E0AC905F682ECF6DE4E9835089B519 > 17783249 total sectors (9105023488 bytes) Model (QM39100TD-SCA) serial # (PCB=20-116711-06 HDAQM39100TD-SCA) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 017751762 0000/001/01 1023/254/63 Boot 07 NTFS 2 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 3 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 4 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 1 017751762 sectors 9088902144 bytes
Log Highlights:	Start: 09/27/07 11:59:55AM Acquisition Hash: 91E0AC905F682ECF6DE4E9835089B519 Actual Date:09/27/07 11:59:55AM File Integrity:Completely Verified, 0 Errors Acquisition Hash:91e0ac905f682ecf6de4e9835089b519 Verify Hash:91e0ac905f682ecf6de4e9835089b519 EnCase Version:6.5 System Version:Windows XP Error Granularity:64 Read Errors:0 CRC Errors:0 Total Size:9,105,023,488 bytes (8.5GB) Total Sectors:17,783,249 Settings: size 64 fill none Write Block: Fastbloc SE
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

Test Case DA-06-SCSI EnCase 6.5		
	AO-22 Tool calculates hashes by block.	option not available
	AO-23 Logged information is correct.	as expected
	AO-24 Source is unchanged by acquisition.	not checked
Analysis:	Expected results achieved	

5.2.8 DA-06-USB

Test Case DA-06-USB EnCase 6.5	
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:	mrmw
Test Host:	Freddy
Test Date:	Wed Aug 1 12:18:02 2007
Drives:	src(01-IDE) dst (none) other (01-FU)
Source Setup:	src hash (SHA1): < A48BB5665D6DC57C22DB68E2F723DA9AA8DF82B9 > src hash (MD5): < F458F673894753FA6A0EC8B8EC63848E > 78165360 total sectors (40020664320 bytes) Model (0BB-00JHC0) serial # (WD-WMAMC74171) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 020980827 0000/001/01 1023/254/63 0C Fat32X 2 X 020980890 057175335 1023/000/01 1023/254/63 0F extended 3 S 000000063 000032067 1023/001/01 1023/254/63 01 Fat12 4 x 000032130 002104515 1023/000/01 1023/254/63 05 extended 5 S 000000063 002104452 1023/001/01 1023/254/63 06 Fat16 6 x 002136645 004192965 1023/000/01 1023/254/63 05 extended 7 S 000000063 004192902 1023/001/01 1023/254/63 16 other 8 x 006329610 008401995 1023/000/01 1023/254/63 05 extended 9 S 000000063 008401932 1023/001/01 1023/254/63 0B Fat32 10 x 014731605 010490445 1023/000/01 1023/254/63 05 extended 11 S 000000063 010490382 1023/001/01 1023/254/63 83 Linux 12 x 025222050 004209030 1023/000/01 1023/254/63 05 extended 13 S 000000063 004208967 1023/001/01 1023/254/63 82 Linux swap 14 x 029431080 027744255 1023/000/01 1023/254/63 05 extended 15 S 000000063 027744192 1023/001/01 1023/254/63 07 NTFS 16 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 17 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 18 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 1 020980827 sectors 10742183424 bytes 3 000032067 sectors 16418304 bytes 5 002104452 sectors 1077479424 bytes 7 004192902 sectors 2146765824 bytes 9 008401932 sectors 4301789184 bytes 11 010490382 sectors 5371075584 bytes 13 004208967 sectors 2154991104 bytes 15 027744192 sectors 14205026304 bytes
Log Highlights:	Start: 09/27/07 10:43:40AM Acquisition Hash: F458F673894753FA6A0EC8B8EC63848E Start: 10/01/07 08:21:43AM Start Sector: 0 Stop Sector: 78,165,359 Hash Value: F458F673894753FA6A0EC8B8EC63848E Actual Date:09/27/07 10:43:40AM File Integrity:Completely Verified, 0 Errors Acquisition Hash:f458f673894753fa6a0ec8b8ec63848e Verify Hash:f458f673894753fa6a0ec8b8ec63848e

Test Case DA-06-USB EnCase 6.5	
	EnCase Version:6.5 System Version:Windows 2000 Error Granularity:64 Read Errors:0 CRC Errors:0 Total Size:40,020,664,320 bytes (37.3GB) Total Sectors:78,165,360 Settings: size CD (640 MB) fill none Write Block: 9 FastBloc FE
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 available
AO-23 Logged information is correct.	as expected
AO-24 Source is unchanged by acquisition.	not checked

Analysis:	Expected results achieved

5.2.9 DA-07-CF

Test Case DA-07-CF EnCase 6.5	
Case Summary:	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:	Freddy
Test Date:	Tue Mar 10 13:20:56 2009
Drives:	src(C1-CF) dst (none) other (06-FU)
Source Setup:	src hash (SHA256): < C7CF0218222DF80D5316511D6814266C7FA507C13F795AD3D323BB73C1590D80 > src hash (SHA1): < 5B8235178DF99FA307430C088F81746606638A0B > src hash (MD5): < 776DF8B4D2589E21DEBCF589EDC16D78 > 503808 total sectors (257949696 bytes) Model (CF) serial # ()
Log Highlights:	Start: 03/10/09 02:40:08PM Acquisition Hash: 776DF8B4D2589E21DEBCF589EDC16D78 Actual Date:03/10/09 02:40:08PM File Integrity:Completely Verified, 0 Errors Acquisition Hash:776df8b4d2589e21debcf589edc16d78 Verify Hash:776df8b4d2589e21debcf589edc16d78 EnCase Version:6.5 System Version:Windows 2000 Error Granularity:64 Read Errors:0 CRC Errors:0 Total Size:257,949,696 bytes (246MB) Total Sectors:503,808 Total Capacity:256,925,696 bytes (245MB) Total Clusters:125,452Unallocated:256,913,408 bytes (245MB) Settings: size CD (640MB) fill none Write Block: 7 UltraBlock Forensic Card Reader
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 available
AO-23 Logged information is correct.	as expected
AO-24 Source is unchanged by acquisition.	not checked

Test Case DA-07-CF EnCase 6.5	
Analysis:	Expected results achieved

5.2.10 DA-07-F12

Test Case DA-07-F12 EnCase 6.5	
Case Summary:	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:	mrmw
Test Host:	Freddy
Test Date:	Wed Sep 26 13:32:55 2007
Drives:	src(01-IDE) dst (none) other (06-FU)
Source Setup:	src hash (SHA1): < A48BB5665D6DC57C22DB68E2F723DA9AA8DF82B9 > src hash (MD5): < F458F673894753FA6A0EC8B8EC63848E > 78165360 total sectors (40020664320 bytes) Model (0BB-00JHC0) serial # (WD-WMAMC74171) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 020980827 0000/001/01 1023/254/63 0C Fat32X 2 X 020980890 057175335 1023/000/01 1023/254/63 0F extended 3 S 000000063 000032067 1023/001/01 1023/254/63 01 Fat12 4 x 000032130 002104515 1023/000/01 1023/254/63 05 extended 5 S 000000063 002104452 1023/001/01 1023/254/63 06 Fat16 6 x 002136645 004192965 1023/000/01 1023/254/63 05 extended 7 S 000000063 004192902 1023/001/01 1023/254/63 16 other 8 x 006329610 008401995 1023/000/01 1023/254/63 05 extended 9 S 000000063 008401932 1023/001/01 1023/254/63 0B Fat32 10 x 014731605 010490445 1023/000/01 1023/254/63 05 extended 11 S 000000063 010490382 1023/001/01 1023/254/63 83 Linux 12 x 025222050 004209030 1023/000/01 1023/254/63 05 extended 13 S 000000063 004208967 1023/001/01 1023/254/63 82 Linux swap 14 x 029431080 027744255 1023/000/01 1023/254/63 05 extended 15 S 000000063 027744192 1023/001/01 1023/254/63 07 NTFS 16 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 17 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 18 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 1 020980827 sectors 10742183424 bytes 3 000032067 sectors 16418304 bytes 5 002104452 sectors 1077479424 bytes 7 004192902 sectors 2146765824 bytes 9 008401932 sectors 4301789184 bytes 11 010490382 sectors 5371075584 bytes 13 004208967 sectors 2154991104 bytes 15 027744192 sectors 14205026304 bytes 01F12-md5 16418303 E20E3CFEA80BF6F2D2AA75E829CC8CD9 01F12-sha1 16418303 F8B72B65436DE3BD394ACFF71D405D0389C0E9B7
Log Highlights:	Start: 09/26/07 01:40:19PM Acquisition Hash: E20E3CFEA80BF6F2D2AA75E829CC8CD9 Actual Date:09/26/07 01:40:19PM File Integrity:Completely Verified, 0 Errors Acquisition Hash:e20e3cfea80bf6f2d2aa75e829cc8cd9 Verify Hash:e20e3cfea80bf6f2d2aa75e829cc8cd9 EnCase Version:6.5 System Version:Windows 2000

Test Case DA-07-F12 EnCase 6.5	
	Error Granularity:64 Read Errors:0 CRC Errors:0 Total Size:16,418,304 bytes (15.7MB) Total Sectors:32,067 Total Capacity:16,384,000 bytes (15.6MB) Total Clusters:4,000Unallocated:16,248,832 bytes (15.5MB) OEM Version:MSWIN4.0Serial Number:8AC5-98DE Settings: size CD (640 MB) fill none Write Block: 45 FastBloc2 FE
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 available
AO-23 Logged information is correct.	as expected
AO-24 Source is unchanged by acquisition.	not checked

Analysis:	Expected results achieved

5.2.11 DA-07-F16

Test Case DA-07-F16 EnCase 6.5	
Case Summary:	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:	mrmw
Test Host:	Freddy
Test Date:	Mon Oct 1 08:34:46 2007
Drives:	src(43) dst (01-FU) other (none)
Source Setup:	src hash (SHA256): < 2658F47603DE6B1D883B64823E9733F578658D08D06A4BB8C053C4F57BDC615E > src hash (SHA1): < 888E2E7F7AD237DC7A732281DD93F325065E5871 > src hash (MD5): < BC39C3F7EE7A50E77B9BA1E65A5AEEF7 > 78125000 total sectors (40000000000 bytes) Model (0BB-75JHC0) serial # (WD-WMAMC46588) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 020980827 0000/001/01 1023/254/63 0C Fat32X 2 X 020980890 057143205 1023/000/01 1023/254/63 0F extended 3 S 000000063 000032067 1023/001/01 1023/254/63 01 Fat12 4 x 000032130 002104515 1023/000/01 1023/254/63 05 extended 5 S 000000063 002104452 1023/001/01 1023/254/63 06 Fat16 6 x 002136645 004192965 1023/000/01 1023/254/63 05 extended 7 S 000000063 004192902 1023/001/01 1023/254/63 16 other 8 x 006329610 008401995 1023/000/01 1023/254/63 05 extended 9 S 000000063 008401932 1023/001/01 1023/254/63 0B Fat32 10 x 014731605 010490445 1023/000/01 1023/254/63 05 extended 11 S 000000063 010490382 1023/001/01 1023/254/63 83 Linux 12 x 025222050 004209030 1023/000/01 1023/254/63 05 extended 13 S 000000063 004208967 1023/001/01 1023/254/63 82 Linux swap 14 x 029431080 027712125 1023/000/01 1023/254/63 05 extended 15 S 000000063 027712062 1023/001/01 1023/254/63 07 NTFS 16 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 17 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 18 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 1 020980827 sectors 10742183424 bytes 3 000032067 sectors 16418304 bytes 5 002104452 sectors 1077479424 bytes 7 004192902 sectors 2146765824 bytes 9 008401932 sectors 4301789184 bytes 11 010490382 sectors 5371075584 bytes 13 004208967 sectors 2154991104 bytes 15 027712062 sectors 14188575744 bytes 43F16-md5sum 1077479423 37E81FFB31C3CB38AA48B2237500908E
Log Highlights:	Start: 10/02/07 07:53:22AM Acquisition Hash: 37E81FFB31C3CB38AA48B2237500908E Actual Date:10/02/07 07:53:22AM File Integrity:Completely Verified, 0 Errors Acquisition Hash:37e81ffb31c3cb38aa48b2237500908e Verify Hash:37e81ffb31c3cb38aa48b2237500908e

Test Case DA-07-F16 EnCase 6.5	
	EnCase Version:6.5 System Version:Windows 2003 Server Error Granularity:64 Read Errors:0 CRC Errors:0 Total Size:1,077,479,424 bytes (1GB) Total Sectors:2,104,452 Total Capacity:1,077,313,536 bytes (1GB) Total Clusters:32,877Unallocated:1,076,953,088 bytes (1GB) OEM Version:MSWIN4.0Serial Number:CCCF-3DAD Settings: size FAT (2000) fill none Write Block: 43 FastBloc 2 LE
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 available
AO-23 Logged information is correct.	as expected
AO-24 Source is unchanged by acquisition.	not checked

Analysis:	Expected results achieved

5.2.12 DA-07-F32

Test Case DA-07-F32 EnCase 6.5	
Case Summary:	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:	mrmw
Test Host:	Joe
Test Date:	Wed Sep 26 13:48:24 2007
Drives:	src(01-IDE) dst (none) other (06-FU)
Source Setup:	src hash (SHA1): < A48BB5665D6DC57C22DB68E2F723DA9AA8DF82B9 > src hash (MD5): < F458F673894753FA6A0EC8B8EC63848E > 78165360 total sectors (40020664320 bytes) Model (0BB-00JHC0) serial # (WD-WMAMC74171) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 020980827 0000/001/01 1023/254/63 0C Fat32X 2 X 020980890 057175335 1023/000/01 1023/254/63 0F extended 3 S 000000063 000032067 1023/001/01 1023/254/63 01 Fat12 4 x 000032130 002104515 1023/000/01 1023/254/63 05 extended 5 S 000000063 002104452 1023/001/01 1023/254/63 06 Fat16 6 x 002136645 004192965 1023/000/01 1023/254/63 05 extended 7 S 000000063 004192902 1023/001/01 1023/254/63 16 other 8 x 006329610 008401995 1023/000/01 1023/254/63 05 extended 9 S 000000063 008401932 1023/001/01 1023/254/63 0B Fat32 10 x 014731605 010490445 1023/000/01 1023/254/63 05 extended 11 S 000000063 010490382 1023/001/01 1023/254/63 83 Linux 12 x 025222050 004209030 1023/000/01 1023/254/63 05 extended 13 S 000000063 004208967 1023/001/01 1023/254/63 82 Linux swap 14 x 029431080 027744255 1023/000/01 1023/254/63 05 extended 15 S 000000063 027744192 1023/001/01 1023/254/63 07 NTFS 16 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 17 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 18 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 1 020980827 sectors 10742183424 bytes 3 000032067 sectors 16418304 bytes 5 002104452 sectors 1077479424 bytes 7 004192902 sectors 2146765824 bytes 9 008401932 sectors 4301789184 bytes 11 010490382 sectors 5371075584 bytes 13 004208967 sectors 2154991104 bytes 15 027744192 sectors 14205026304 bytes 01F32-md5 4301789183 BFF7DC64C54339DA2A9D7972C076B514 01F32-sha1 4301789183 B861D9E999F39750B484FFB693FF69DEC090C6B8
Log Highlights:	Start: 09/26/07 02:57:11PM Acquisition Hash: BFF7DC64C54339DA2A9D7972C076B514 Actual Date:09/26/07 02:57:11PM File Integrity:Completely Verified, 0 Errors Acquisition Hash:bff7dc64c54339da2a9d7972c076b514 Verify Hash:bff7dc64c54339da2a9d7972c076b514 EnCase Version:6.5 System Version:Windows XP

Test Case DA-07-F32 EnCase 6.5	
	Error Granularity:64 Read Errors:0 CRC Errors:0 Total Size:4,301,789,184 bytes (4GB) Total Sectors:8,401,932 Total Capacity:4,293,382,144 bytes (4GB) Total Clusters:1,048,189Unallocated:4,292,919,296 bytes (4GB) OEM Version:MSWIN4.1Serial Number:5AEE-05B5 Settings: size CD (640 MB) fill none Write Block: 45 FastBloc2 FE
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 available
AO-23 Logged information is correct.	as expected
AO-24 Source is unchanged by acquisition.	not checked

Analysis:	Expected results achieved

5.2.13 DA-07-F32X

Test Case DA-07-F32X EnCase 6.5	
Case Summary:	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:	mrmw
Test Host:	Freddy
Test Date:	Tue Oct 2 07:57:25 2007
Drives:	src(43) dst (none) other (01-fu)
Source Setup:	src hash (SHA256): < 2658F47603DE6B1D883B64823E9733F578658D08D06A4BB8C053C4F57BDC615E > src hash (SHA1): < 888E2E7F7AD237DC7A732281DD93F325065E5871 > src hash (MD5): < BC39C3F7EE7A50E77B9BA1E65A5AEEF7 > 78125000 total sectors (40000000000 bytes) Model (0BB-75JHC0) serial # (WD-WMAMC46588) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 020980827 0000/001/01 1023/254/63 0C Fat32X 2 X 020980890 057143205 1023/000/01 1023/254/63 0F extended 3 S 000000063 000032067 1023/001/01 1023/254/63 01 Fat12 4 x 000032130 002104515 1023/000/01 1023/254/63 05 extended 5 S 000000063 002104452 1023/001/01 1023/254/63 06 Fat16 6 x 002136645 004192965 1023/000/01 1023/254/63 05 extended 7 S 000000063 004192902 1023/001/01 1023/254/63 16 other 8 x 006329610 008401995 1023/000/01 1023/254/63 05 extended 9 S 000000063 008401932 1023/001/01 1023/254/63 0B Fat32 10 x 014731605 010490445 1023/000/01 1023/254/63 05 extended 11 S 000000063 010490382 1023/001/01 1023/254/63 83 Linux 12 x 025222050 004209030 1023/000/01 1023/254/63 05 extended 13 S 000000063 004208967 1023/001/01 1023/254/63 82 Linux swap 14 x 029431080 027712125 1023/000/01 1023/254/63 05 extended 15 S 000000063 027712062 1023/001/01 1023/254/63 07 NTFS 16 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 17 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 18 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 1 020980827 sectors 10742183424 bytes 3 000032067 sectors 16418304 bytes 5 002104452 sectors 1077479424 bytes 7 004192902 sectors 2146765824 bytes 9 008401932 sectors 4301789184 bytes 11 010490382 sectors 5371075584 bytes 13 004208967 sectors 2154991104 bytes 15 027712062 sectors 14188575744 bytes 43F32x-md5sum 10742183424 5980CB0FA68E9862C65765DF50F00906
Log Highlights:	Start: 10/02/07 08:04:21AM Acquisition Hash: 5980CB0FA68E9862C65765DF50F00906 Actual Date:10/02/07 08:04:21AM File Integrity:Completely Verified, 0 Errors Acquisition Hash:5980cb0fa68e9862c65765df50f00906 Verify Hash:5980cb0fa68e9862c65765df50f00906

Test Case DA-07-F32X EnCase 6.5	
	EnCase Version:6.5 System Version:Windows 2000 Error Granularity:64 Read Errors:0 CRC Errors:0 Total Size:10,742,183,424 bytes (10GB) Total Sectors:20,980,827 Total Capacity:10,731,683,840 bytes (10GB) Total Clusters:1,310,020Unallocated:10,729,906,176 bytes (10GB) OEM Version:MSWIN4.1Serial Number:4445-13C7 Settings: size FAT (2000MB) fill none Write Block: 42 FastBloc FE
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 available
AO-23 Logged information is correct.	as expected
AO-24 Source is unchanged by acquisition.	not checked

Analysis:	Expected results achieved

5.2.14 DA-07-NTFS

Test Case DA-07-NTFS EnCase 6.5	
Case Summary:	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:	mrmw
Test Host:	Joe
Test Date:	Wed Sep 26 14:09:37 2007
Drives:	src(01-IDE) dst (none) other (06-FU)
Source Setup:	src hash (SHA1): < A48BB5665D6DC57C22DB68E2F723DA9AA8DF82B9 > src hash (MD5): < F458F673894753FA6A0EC8B8EC63848E > 78165360 total sectors (40020664320 bytes) Model (0BB-00JHC0) serial # (WD-WMAMC74171) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 020980827 0000/001/01 1023/254/63 0C Fat32X 2 X 020980890 057175335 1023/000/01 1023/254/63 0F extended 3 S 000000063 000032067 1023/001/01 1023/254/63 01 Fat12 4 x 000032130 002104515 1023/000/01 1023/254/63 05 extended 5 S 000000063 002104452 1023/001/01 1023/254/63 06 Fat16 6 x 002136645 004192965 1023/000/01 1023/254/63 05 extended 7 S 000000063 004192902 1023/001/01 1023/254/63 16 other 8 x 006329610 008401995 1023/000/01 1023/254/63 05 extended 9 S 000000063 008401932 1023/001/01 1023/254/63 0B Fat32 10 x 014731605 010490445 1023/000/01 1023/254/63 05 extended 11 S 000000063 010490382 1023/001/01 1023/254/63 83 Linux 12 x 025222050 004209030 1023/000/01 1023/254/63 05 extended 13 S 000000063 004208967 1023/001/01 1023/254/63 82 Linux swap 14 x 029431080 027744255 1023/000/01 1023/254/63 05 extended 15 S 000000063 027744192 1023/001/01 1023/254/63 07 NTFS 16 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 17 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 18 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 1 020980827 sectors 10742183424 bytes 3 000032067 sectors 16418304 bytes 5 002104452 sectors 1077479424 bytes 7 004192902 sectors 2146765824 bytes 9 008401932 sectors 4301789184 bytes 11 010490382 sectors 5371075584 bytes 13 004208967 sectors 2154991104 bytes 15 027744192 sectors 14205026304 bytes 01NTFS-md5 14205026303 92B27B30BEE8B0FFBA8C660FA1590D49 01NTFS-sha1 14205026303 0FBA4C36295CB9622CD815577429C3A588C34D09 01NTFS-sha256 14205026303 65FCD168163625E5EB74255B2A981B6F1C9D6259AF8A0851369101986A7ABC09
Log Highlights:	Start: 09/26/07 03:18:04PM Start: 09/26/07 03:22:35PM Acquisition Hash: 494A6ED8A827AD9B5403E0CC89379956 Actual Date:09/26/07 03:22:35PM File Integrity:Completely Verified, 0 Errors

Test Case DA-07-NTFS EnCase 6.5	
	Acquisition Hash:494a6ed8a827ad9b5403e0cc89379956 Verify Hash:494a6ed8a827ad9b5403e0cc89379956 EnCase Version:6.5 System Version:Windows 2003 Server Error Granularity:64 Read Errors:0 CRC Errors:0 Total Size:14,205,025,792 bytes (13.2GB) Total Sectors:27,744,191 Total Capacity:14,205,022,208 bytes (13.2GB) Total Clusters:3,468,023Unallocated:14,137,024,512 bytes (13.2GB) Settings: size CD (640 MB) fill none Write Block: 45 FastBloc2 FE
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.	one sector missed
AM-08 All sectors accurately acquired.	some sector differs
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 available
AO-23 Logged information is correct.	as expected
AO-24 Source is unchanged by acquisition.	not checked

Analysis:	Expected results not achieved

5.2.15 DA-07-THUMB

Test Case DA-07-THUMB EnCase 6.5	
Case Summary:	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:	Freddy
Test Date:	Wed Mar 11 11:20:04 2009
Drives:	src(D5-THUMB) dst (none) other (06-FU)
Source Setup:	src hash (SHA1): < D68520EF74A336E49DCCF83815B7B08FDC53E38A > src hash (MD5): < C843593624B2B3B878596D8760B19954 > 505856 total sectors (258998272 bytes) Model (usb2.0Flash Disk) serial # ()
Log Highlights:	Start: 03/11/09 11:41:04AM Acquisition Hash: C843593624B2B3B878596D8760B19954 Actual Date:03/11/09 11:41:04AM File Integrity:Completely Verified, 0 Errors Acquisition Hash:c843593624b2b3b878596d8760b19954 Verify Hash:c843593624b2b3b878596d8760b19954 EnCase Version:6.5 System Version:Windows 2000 Error Granularity:64 Read Errors:0 CRC Errors:0 Total Size:258,998,272 bytes (247MB) Total Sectors:505,856 Total Capacity:257,970,176 bytes (246MB) Total Clusters:125,962Unallocated:257,517,568 bytes (245.6MB) OEM Version:MSDOS5.0Serial Number:5C65-70D0 Settings: size 640MB fill none Write Block: 18 Tableau UltraBlock USB (T8)
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 available
AO-23 Logged information is correct.	as expected
AO-24 Source is unchanged by acquisition.	not checked

Analysis:	Expected results achieved

5.2.16 DA-08-ATA28

Test Case DA-08-ATA28 EnCase 6.5	
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:	Freddy
Test Date:	Thu Mar 12 15:07:29 2009
Drives:	src(42) dst (none) other (06-FU)
Source Setup:	src hash (SHA1): < 5A75399023056E0EB905082B35F8FAA1DB049229 > src hash (MD5): < F4B9AAB24554EEEB2A962BDA554A9252 > 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 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 3 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 4 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 1 070348572 sectors 36018468864 bytes HPA created 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:	Start: 03/13/09 12:04:07PM Acquisition Hash: F4B9AAB24554EEEB2A962BDA554A9252 Actual Date:03/13/09 12:04:07PM File Integrity:Completely Verified, 0 Errors Acquisition Hash:f4b9aab24554eeeb2a962bda554a9252 Verify Hash:f4b9aab24554eeeb2a962bda554a9252 EnCase Version:6.5 System Version:Windows 2003 Server Error Granularity:64 Read Errors:0 CRC Errors:0 Total Size:40,020,664,320 bytes (37.3GB) Total Sectors:78,165,360 Settings: size 640 MB fill none Write Block: FastBlock SE
Results:	

Test Case DA-08-ATA28 EnCase 6.5		
	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 available
	AO-23 Logged information is correct.	as expected
	AO-24 Source is unchanged by acquisition.	not checked
Analysis:	Expected results achieved	

5.2.17 DA-08-ATA48

Test Case DA-08-ATA48 EnCase 6.5	
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:	mrmw
Test Host:	Max
Test Date:	Fri Jul 13 14:04:04 2007
Drives:	src(4B) dst (none) other (01-fu)
Source Setup:	src hash (SHA1): < F409920836FED76DBB60DEEEF467A6DDED5BF48E > src hash (MD5): < B5641B5A594912B4D60518304B1DE698 > 390721968 total sectors (200049647616 bytes) 24320/254/63 (max cyl/hd values) 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 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 3 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 4 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 1 351646722 sectors 180043121664 bytes HPA created BIOS, XBIOS and Direct disk geometry Reporter (BXDR) 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:	Start: 07/13/07 02:57:54PM Acquisition Hash: 6BAFEFC000470C126434D933429C879B Settings: fill none size CD Write Block: 3 FastBloc IDE
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.	HPA not acquired
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 available

Test Case DA-08-ATA48 EnCase 6.5		
	AO-23 Logged information is correct.	as expected
	AO-24 Source is unchanged by acquisition.	not checked
Analysis:	Expected results not achieved	

5.2.18 DA-08-DCO

Test Case DA-08-DCO EnCase 6.5	
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:	mrmw
Test Host:	Frank
Test Date:	Thu Aug 2 07:55:23 2007
Drives:	src(92) dst (none) other (04-FU)
Source Setup:	src hash (SHA1): < 63E6F7BD3040A8ADA2CF8FBF66A805B76DF10481 > src hash (MD5): < E095DD1BD0B0DD6E603153A3FE1A2F3E > 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 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 3 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 4 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 1 058605057 sectors 30005789184 bytes Hashes with DCO in place: md5:525963C6789423396FE1F3202A8CBD04 sha1.txt:55A3CFE756B7B0034DCCE71F7D7A477D8681B781
Log Highlights:	Actual Date:08/02/07 07:02:34AM File Integrity:Completely Verified, 0 Errors Acquisition Hash:525963c6789423396fe1f3202a8cbd04 Verify Hash:525963c6789423396fe1f3202a8cbd04 EnCase Version:6.5 System Version:Windows XP Error Granularity:64 Read Errors:0 CRC Errors:0 Total Size:27,018,245,120 bytes (25.2GB) Total Sectors:52,770,010 Settings: size FAT(2000MB) fill none Write Block: 4 FastBloc IDE
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.	DCO not acquired
AM-08 All sectors accurately acquired.	as expected

Test Case DA-08-DCO EnCase 6.5		
	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 available
	AO-23 Logged information is correct.	as expected
	AO-24 Source is unchanged by acquisition.	not checked
Analysis:	Expected results not achieved	

5.2.19 DA-09-01

Test Case DA-09-01 EnCase 6.5	
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.
Tester Name:	mrmw
Test Host:	Joe
Test Date:	Thu Aug 2 06:07:23 2007
Drives:	src(cpr1) dst (21) other (04-FU)
Source Setup:	No before hash for 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
Log Highlights:	Destination setup 195813072 sectors wiped with 22 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-09-01 EnCase 6.5	
	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 Source (120103200) has 75709872 fewer sectors than destination (195813072) Zero fill: 0 Src Byte fill (ED): 0 Dst Byte fill (22): 75709872 Other fill: 0 Other no fill: 0 Zero fill range: Src fill range: Dst fill range: 120103200-195813071 Other fill range: Other not filled range: 0 source read errors, 0 destination read errors Starting Extent:0S0 Actual Date:08/02/07 10:47:01AM File Integrity:Completely Verified, 0 Errors Acquisition Hash:ef3e63c324522760c838f2a93b7180d3 Verify Hash:ef3e63c324522760c838f2a93b7180d3 EnCase Version:6.5 System Version:Windows XP Error Granularity:1 Read Errors:44 CRC Errors:0 Total Size:61,492,838,400 bytes (57.3GB) Total Sectors:120,103,200 Read Errors: 44 Missing Sectors: 0 CRC Errors: 0 Compression: Good Read Errors Start Sector Sectors 10,069,095 1 10,069,911 1 12,023,808 1 18,652,594 1 18,656,041 1 18,656,857 1 18,660,303 1 18,661,119 1 19,746,716 2 22,233,904 1 23,098,370 1 23,383,001 1 24,102,466 2 24,104,250 1 24,106,656 1 24,107,458 1 28,959,971 2 41,825,791 1 41,828,995 1 52,654,580 1 52,655,318 1 60,522,984 1 68,643,842 2 69,973,290 1 72,714,626 1 72,715,293 1 82,148,809 2 83,810,525 1 85,310,861 1 85,313,430 1 85,314,038 2 86,321,211 1 86,323,780 1

Test Case DA-09-01 EnCase 6.5

```
87,186,066 1
87,856,313 1
87,856,922 1
97,191,260 2
100,093,150 2
103,861,021 1
109,706,975 2
110,347,947 1
110,350,122 2
115,664,758 1
115,835,518 1

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: size CD (640MB)
 fill none
Write Block: 45 FastBloc2 FE
```

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
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 available
AO-23 Logged information is correct.	as expected
AO-24 Source is unchanged by acquisition.	not checked

Analysis: Expected results achieved

5.2.20 DA-09-02

Test Case DA-09-02 EnCase 6.5	
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.
Tester Name:	mrmw
Test Host:	Frank
Test Date:	Tue Aug 7 10:18:16 2007
Drives:	src(cpr1) dst (21) other (01-FU)
Source Setup:	No before hash for 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
Log Highlights:	Destination setup 195813072 sectors wiped with 21 Comparision of original to clone Drive Sectors compared: 120103200 Sectors match: 120103106 Sectors differ: 94 Bytes differ: 48034 Diffs range 10069094-10069095, 10069910-10069911, 12023808-12023809, 18652594-18652595, 18656040-18656041, 18656856-18656857, 18660302-18660303, 18661118-18661119, 19746716-19746717, 22233904-22233905, 23098370-23098371, 23383000-23383001,

Test Case DA-09-02 EnCase 6.5	
	24102466-24102467, 24104250-24104251, 24106656-24106657, 24107458-24107459, 28959970-28959973, 41825790-41825791, 41828994-41828995, 52654580-52654581, 52655318-52655319, 60522984-60522985, 68643842-68643843, 69973290-69973291, 72714626-72714627, 72715292-72715293, 82148808-82148811, 83810524-83810525, 85310860-85310861, 85313430-85313431, 85314038-85314039, 86321210-86321211, 86323780-86323781, 87186066-87186067, 87856312-87856313, 87856922-87856923, 97191260-97191261, 100093150-100093151, 103861020-103861021, 109706974-109706977, 110347946-110347947, 110350122-110350123, 115664758-115664759, 115835518-115835519 Source (120103200) has 75709872 fewer sectors than destination (195813072) Zero fill: 0 Src Byte fill (ED): 0 Dst Byte fill (21): 75709872 Other fill: 0 Other no fill: 0 Zero fill range: Src fill range: Dst fill range: 120103200-195813071 Other fill range: Other not filled range: 0 source read errors, 0 destination read errors Starting Extent:0S0 Actual Date:08/07/07 09:19:44AM File Integrity:Completely Verified, 0 Errors Acquisition Hash:f6d2f0da8220ec8e147e5c9345836f95 Verify Hash:f6d2f0da8220ec8e147e5c9345836f95 EnCase Version:6.5 System Version:Windows 2000 Error Granularity:2 Read Errors:44 CRC Errors:0 Total Size:61,492,838,400 bytes (57.3GB) Total Sectors:120,103,200 Read Errors: 44 Missing Sectors: 0 CRC Errors: 0 Compression: Good Read Errors Start Sector Sectors 10,069,094 2 10,069,910 2 12,023,808 2 18,652,594 2 18,656,040 2 18,656,856 2 18,660,302 2 18,661,118 2 19,746,716 2 22,233,904 2 23,098,370 2 23,383,000 2 24,102,466 2 24,104,250 2 24,106,656 2 24,107,458 2 28,959,970 4 41,825,790 2 41,828,994 2 52,654,580 2 52,655,318 2 60,522,984 2 68,643,842 2 69,973,290 2 72,714,626 2 72,715,292 2 82,148,808 4 83,810,524 2

Test Case DA-09-02 EnCase 6.5

```
85,310,860 2
85,313,430 2
85,314,038 2
86,321,210 2
86,323,780 2
87,186,066 2
87,856,312 2
87,856,922 2
97,191,260 2
100,093,150 2
103,861,020 2
109,706,974 4
110,347,946 2
110,350,122 2
115,664,758 2
115,835,518 2

2 different run lengths observed in 44 runs
41 runs of length 2
3 runs of length 4
94 sectors differ
    94 zero filled and 0 varying non-zero filled
Settings: size CD (640 MB)
 fill none
Write Block: none
```

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.	some sectors differ
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 available
AO-23 Logged information is correct.	as expected
AO-24 Source is unchanged by acquisition.	not checked

Analysis: Expected results not achieved

5.2.21 DA-09-16

Test Case DA-09-16 EnCase 6.5	
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.
Tester Name:	mrmw
Test Host:	Frank
Test Date:	Wed Aug 1 14:08:21 2007
Drives:	src(cpr1) dst (23) other (04-FU)
Source Setup:	No before hash for 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
Log Highlights:	Destination setup 195813072 sectors wiped with 23 Comparision of original to clone Drive Sectors compared: 120103200 Sectors match: 120102480 Sectors differ: 720 Bytes differ: 367920 Diffs range 10069088-10069103, 10069904-10069919, 12023808-12023823, 18652592-18652607, 18656032-18656047, 18656848-18656863, 18660288-18660303, 18661104-18661119, 19746704-19746719, 22233904-22233919, 23098368-23098383, 23382992-23383007,

Test Case DA-09-16 EnCase 6.5	
	24102464-24102479, 24104240-24104255, 24106656-24106671, 24107456-24107471, 28959968-28959983, 41825776-41825791, 41828992-41829007, 52654576-52654591, 52655312-52655327, 60522976-60522991, 68643840-68643855, 69973280-69973295, 72714624-72714639, 72715280-72715295, 82148800-82148815, 83810512-83810527, 85310848-85310863, 85313424-85313439, 85314032-85314047, 86321200-86321215, 86323776-86323791, 87186064-87186079, 87856304-87856319, 87856912-87856927, 97191248-97191263, 100093136-100093151, 103861008-103861023, 109706960-109706991, 110347936-110347951, 110350112-110350127, 115664752-115664767, 115835504-115835519 Source (120103200) has 75709872 fewer sectors than destination (195813072) Zero fill: 0 Src Byte fill (ED): 0 Dst Byte fill (23): 75709872 Other fill: 0 Other no fill: 0 Zero fill range: Src fill range: Dst fill range: 120103200-195813071 Other fill range: Other not filled range: 0 source read errors, 0 destination read errors Start: 08/01/07 02:11:02PM Acquisition Hash: 36EEC73A1B99C9D8B6CE67F31E85F4D7 Start: 08/02/07 04:21:26AM Total Sectors: 195,813,072 Input Hash: 36EEC73A1B99C9D8B6CE67F31E85F4D7 Actual Date:08/01/07 02:11:02PM File Integrity:Completely Verified, 0 Errors Acquisition Hash:36eec73a1b99c9d8b6ce67f31e85f4d7 Verify Hash:36eec73a1b99c9d8b6ce67f31e85f4d7 EnCase Version:6.5 System Version:Windows 2003 Server Error Granularity:16 Read Errors:44 CRC Errors:0 Total Size:61,492,838,400 bytes (57.3GB) Total Sectors:120,103,200 Read Errors: 44 Missing Sectors: 0 CRC Errors: 0 Compression: Good Read Errors Start Sector Sectors 10,069,088 16 10,069,904 16 12,023,808 16 18,652,592 16 18,656,032 16 18,656,848 16 18,660,288 16 18,661,104 16 19,746,704 16 22,233,904 16 23,098,368 16 23,382,992 16 24,102,464 16 24,104,240 16 24,106,656 16 24,107,456 16 28,959,968 16 41,825,776 16 41,828,992 16 52,654,576 16 52,655,312 16 60,522,976 16 68,643,840 16 69,973,280 16

Test Case DA-09-16 EnCase 6.5

```
72,714,624 16
72,715,280 16
82,148,800 16
83,810,512 16
85,310,848 16
85,313,424 16
85,314,032 16
86,321,200 16
86,323,776 16
87,186,064 16
87,856,304 16
87,856,912 16
97,191,248 16
100,093,136 16
103,861,008 16
109,706,960 32
110,347,936 16
110,350,112 16
115,664,752 16
115,835,504 16

2 different run lengths observed in 44 runs
43 runs of length 16
1 runs of length 32
720 sectors differ
    720 zero filled and 0 varying non-zero filled
Settings: size CD (640 MB) fill none
Write Block: 17 WiebeTech Forensic ComboDock
```

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.	some sectors differ
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 available
AO-23 Logged information is correct.	as expected
AO-24 Source is unchanged by acquisition.	not checked

Analysis: Expected results not achieved

5.2.22 DA-09-64

Test Case DA-09-64 EnCase 6.5	
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.
Tester Name:	mrmw
Test Host:	Frank
Test Date:	Tue Aug 7 11:59:29 2007
Drives:	src(cpr1) dst (23) other (01-FU)
Source Setup:	No before hash for 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
Log Highlights:	Destination setup 195813072 sectors wiped with 23 Comparision of original to clone Drive Sectors compared: 120103200 Sectors match: 120100384 Sectors differ: 2816 Bytes differ: 1438976 Diffs range 10069056-10069119, 10069888-10069951, 12023808-12023871, 18652544-18652607, 18656000-18656063, 18656832-18656895, 18660288-18660351, 18661056-18661119, 19746688-19746751, 22233856-22233919, 23098368-23098431, 23382976-23383039,

Test Case DA-09-64 EnCase 6.5	
	24102464-24102527, 24104192-24104255, 24106624-24106687, 24107456-24107519, 28959936-28959999, 41825728-41825791, 41828992-41829055, 52654528-52654591, 52655296-52655359, 60522944-60523007, 68643840-68643903, 69973248-69973311, 72714624-72714687, 72715264-72715327, 82148800-82148863, 83810496-83810559, 85310848-85310911, 85313408-85313471, 85313984-85314047, 86321152-86321215, 86323776-86323839, 87186048-87186111, 87856256-87856319, 87856896-87856959, 97191232-97191295, 100093120-100093183, 103860992-103861055, 109706944-109707007, 110347904-110347967, 110350080-110350143, 115664704-115664767, 115835456-115835519 Source (120103200) has 75709872 fewer sectors than destination (195813072) Zero fill: 0 Src Byte fill (ED): 0 Dst Byte fill (23): 75709872 Other fill: 0 Other no fill: 0 Zero fill range: Src fill range: Dst fill range: 120103200-195813071 Other fill range: Other not filled range: 0 source read errors, 0 destination read errors Starting Extent:0S0 Actual Date:08/07/07 11:02:14AM File Integrity:Completely Verified, 0 Errors Acquisition Hash:f7537808758654f5d3bd66d0bc0ee827 Verify Hash:f7537808758654f5d3bd66d0bc0ee827 EnCase Version:6.5 System Version:Windows XP Error Granularity:64 Read Errors:44 CRC Errors:0 Total Size:61,492,838,400 bytes (57.3GB) Total Sectors:120,103,200 Read Errors: 44 Missing Sectors: 0 CRC Errors: 0 Compression: Good Read Errors Start Sector Sectors 10,069,056 64 10,069,888 64 12,023,808 64 18,652,544 64 18,656,000 64 18,656,832 64 18,660,288 64 18,661,056 64 19,746,688 64 22,233,856 64 23,098,368 64 23,382,976 64 24,102,464 64 24,104,192 64 24,106,624 64 24,107,456 64 28,959,936 64 41,825,728 64 41,828,992 64 52,654,528 64 52,655,296 64 60,522,944 64 68,643,840 64 69,973,248 64 72,714,624 64 72,715,264 64 82,148,800 64 83,810,496 64

Test Case DA-09-64 EnCase 6.5

```
85,310,848 64
85,313,408 64
85,313,984 64
86,321,152 64
86,323,776 64
87,186,048 64
87,856,256 64
87,856,896 64
97,191,232 64
100,093,120 64
103,860,992 64
109,706,944 64
110,347,904 64
110,350,080 64
115,664,704 64
115,835,456 64

1 different run lengths observed in 44 runs
44 runs of length 64
2816 sectors differ
    2816 zero filled and 0 varying non-zero filled
Settings: size CD (640 MB)
 fill none
Write Block: SE
```

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.	some sectors differ
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 available
AO-23 Logged information is correct.	as expected
AO-24 Source is unchanged by acquisition.	not checked

Analysis: Expected results not achieved

5.2.23 DA-10-BEST

Test Case DA-10-BEST EnCase 6.5	
Case Summary:	DA-10 Acquire a digital source to an image file in an alternate format.
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-02 If an image file format is specified, the tool creates an image file in the specified format. 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:	mw
Test Host:	Freddy
Test Date:	Tue Aug 7 16:12:11 2007
Drives:	src(43) dst (01-FU) other (none)
Source Setup:	src hash (SHA256): < 2658F47603DE6B1D883B64823E9733F578658D08D06A4BB8C053C4F57BDC615E > src hash (SHA1): < 888E2E7F7AD237DC7A732281DD93F325065E5871 > src hash (MD5): < BC39C3F7EE7A50E77B9BA1E65A5AEEF7 > 78125000 total sectors (40000000000 bytes) Model (0BB-75JHC0) serial # (WD-WMAMC46588) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 020980827 0000/001/01 1023/254/63 0C Fat32X 2 X 020980890 057143205 1023/000/01 1023/254/63 0F extended 3 S 000000063 000032067 1023/001/01 1023/254/63 01 Fat12 4 x 000032130 002104515 1023/000/01 1023/254/63 05 extended 5 S 000000063 002104452 1023/001/01 1023/254/63 06 Fat16 6 x 002136645 004192965 1023/000/01 1023/254/63 05 extended 7 S 000000063 004192902 1023/001/01 1023/254/63 16 other 8 x 006329610 008401995 1023/000/01 1023/254/63 05 extended 9 S 000000063 008401932 1023/001/01 1023/254/63 0B Fat32 10 x 014731605 010490445 1023/000/01 1023/254/63 05 extended 11 S 000000063 010490382 1023/001/01 1023/254/63 83 Linux 12 x 025222050 004209030 1023/000/01 1023/254/63 05 extended 13 S 000000063 004208967 1023/001/01 1023/254/63 82 Linux swap 14 x 029431080 027712125 1023/000/01 1023/254/63 05 extended 15 S 000000063 027712062 1023/001/01 1023/254/63 07 NTFS 16 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 17 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 18 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 1 020980827 sectors 10742183424 bytes 3 000032067 sectors 16418304 bytes 5 002104452 sectors 1077479424 bytes 7 004192902 sectors 2146765824 bytes 9 008401932 sectors 4301789184 bytes 11 010490382 sectors 5371075584 bytes 13 004208967 sectors 2154991104 bytes 15 027712062 sectors 14188575744 bytes
Log Highlights:	Starting Extent:0S0 Actual Date:08/07/07 03:27:51PM File Integrity:Completely Verified, 0 Errors Acquisition Hash:bc39c3f7ee7a50e77b9ba1e65a5aeef7 Verify Hash:bc39c3f7ee7a50e77b9ba1e65a5aeef7

Test Case DA-10-BEST EnCase 6.5	
	EnCase Version:6.5 System Version:Windows 2000 Error Granularity:64 Read Errors:0 CRC Errors:0 Total Size:40,000,000,000 bytes (37.3GB) Total Sectors:78,125,000 Settings: size CD (640MB) fill none Write Block: 4 FastBloc FE
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-02 Image file in specified format.	as expected
AO-05 Multifile image created.	as expected
AO-22 Tool calculates hashes by block.	option not available
AO-23 Logged information is correct.	as expected
AO-24 Source is unchanged by acquisition.	not checked

Analysis:	Expected results achieved

5.2.24 DA-10-PASSWORD

Test Case DA-10-PASSWORD EnCase 6.5	
Case Summary:	DA-10 Acquire a digital source to an image file in an alternate format.
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-02 If an image file format is specified, the tool creates an image file in the specified format. 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:	mrmw
Test Host:	Freddy
Test Date:	Tue Aug 7 10:34:54 2007
Drives:	src(43) dst (none) other (04-FU)
Source Setup:	src hash (SHA256): < 2658F47603DE6B1D883B64823E9733F578658D08D06A4BB8C053C4F57BDC615E > src hash (SHA1): < 888E2E7F7AD237DC7A732281DD93F325065E5871 > src hash (MD5): < BC39C3F7EE7A50E77B9BA1E65A5AEEF7 > 78125000 total sectors (40000000000 bytes) Model (0BB-75JHC0) serial # (WD-WMAMC46588) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 020980827 0000/001/01 1023/254/63 0C Fat32X 2 X 020980890 057143205 1023/000/01 1023/254/63 0F extended 3 S 000000063 000032067 1023/001/01 1023/254/63 01 Fat12 4 x 000032130 002104515 1023/000/01 1023/254/63 05 extended 5 S 000000063 002104452 1023/001/01 1023/254/63 06 Fat16 6 x 002136645 004192965 1023/000/01 1023/254/63 05 extended 7 S 000000063 004192902 1023/001/01 1023/254/63 16 other 8 x 006329610 008401995 1023/000/01 1023/254/63 05 extended 9 S 000000063 008401932 1023/001/01 1023/254/63 0B Fat32 10 x 014731605 010490445 1023/000/01 1023/254/63 05 extended 11 S 000000063 010490382 1023/001/01 1023/254/63 83 Linux 12 x 025222050 004209030 1023/000/01 1023/254/63 05 extended 13 S 000000063 004208967 1023/001/01 1023/254/63 82 Linux swap 14 x 029431080 027712125 1023/000/01 1023/254/63 05 extended 15 S 000000063 027712062 1023/001/01 1023/254/63 07 NTFS 16 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 17 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 18 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 1 020980827 sectors 10742183424 bytes 3 000032067 sectors 16418304 bytes 5 002104452 sectors 1077479424 bytes 7 004192902 sectors 2146765824 bytes 9 008401932 sectors 4301789184 bytes 11 010490382 sectors 5371075584 bytes 13 004208967 sectors 2154991104 bytes 15 027712062 sectors 14188575744 bytes
Log Highlights:	Starting Extent:0S0 Actual Date:08/07/07 09:38:42AM File Integrity:Completely Verified, 0 Errors Acquisition Hash:bc39c3f7ee7a50e77b9ba1e65a5aeef7 Verify Hash:bc39c3f7ee7a50e77b9ba1e65a5aeef7

Test Case DA-10-PASSWORD EnCase 6.5	
	EnCase Version:6.5 System Version:Windows XP Error Granularity:64 Read Errors:0 CRC Errors:0 Total Size:40,000,000,000 bytes (37.3GB) Total Sectors:78,125,000 Settings: size CD (640 MB) fill none Write Block: 44 FastBloc2 FE
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-02 Image file in specified format.	as expected
AO-05 Multifile image created.	as expected
AO-22 Tool calculates hashes by block.	option not available
AO-23 Logged information is correct.	as expected
AO-24 Source is unchanged by acquisition.	not checked

Analysis:	Expected results achieved

5.2.25 DA-10-UNCOMPRESSED

Test Case DA-10-UNCOMPRESSED EnCase 6.5	
Case Summary:	DA-10 Acquire a digital source to an image file in an alternate format.
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-02 If an image file format is specified, the tool creates an image file in the specified format. 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:	mrmw
Test Host:	Frank
Test Date:	Thu Aug 2 12:42:24 2007
Drives:	src(43) dst (none) other (04-FU)
Source Setup:	src hash (SHA256): < 2658F47603DE6B1D883B64823E9733F578658D08D06A4BB8C053C4F57BDC615E > src hash (SHA1): < 888E2E7F7AD237DC7A732281DD93F325065E5871 > src hash (MD5): < BC39C3F7EE7A50E77B9BA1E65A5AEEF7 > 78125000 total sectors (40000000000 bytes) Model (0BB-75JHC0) serial # (WD-WMAMC46588) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 020980827 0000/001/01 1023/254/63 0C Fat32X 2 X 020980890 057143205 1023/000/01 1023/254/63 0F extended 3 S 000000063 000032067 1023/001/01 1023/254/63 01 Fat12 4 x 000032130 002104515 1023/000/01 1023/254/63 05 extended 5 S 000000063 002104452 1023/001/01 1023/254/63 06 Fat16 6 x 002136645 004192965 1023/000/01 1023/254/63 05 extended 7 S 000000063 004192902 1023/001/01 1023/254/63 16 other 8 x 006329610 008401995 1023/000/01 1023/254/63 05 extended 9 S 000000063 008401932 1023/001/01 1023/254/63 0B Fat32 10 x 014731605 010490445 1023/000/01 1023/254/63 05 extended 11 S 000000063 010490382 1023/001/01 1023/254/63 83 Linux 12 x 025222050 004209030 1023/000/01 1023/254/63 05 extended 13 S 000000063 004208967 1023/001/01 1023/254/63 82 Linux swap 14 x 029431080 027712125 1023/000/01 1023/254/63 05 extended 15 S 000000063 027712062 1023/001/01 1023/254/63 07 NTFS 16 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 17 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 18 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 1 020980827 sectors 10742183424 bytes 3 000032067 sectors 16418304 bytes 5 002104452 sectors 1077479424 bytes 7 004192902 sectors 2146765824 bytes 9 008401932 sectors 4301789184 bytes 11 010490382 sectors 5371075584 bytes 13 004208967 sectors 2154991104 bytes 15 027712062 sectors 14188575744 bytes
Log Highlights:	Starting Extent:0S0 Actual Date:08/02/07 01:41:01PM File Integrity:Completely Verified, 0 Errors Acquisition Hash:bc39c3f7ee7a50e77b9ba1e65a5aeef7 Verify Hash:bc39c3f7ee7a50e77b9ba1e65a5aeef7

Test Case DA-10-UNCOMPRESSED EnCase 6.5	
	EnCase Version:6.5 System Version:Windows 2003 Server Error Granularity:64 Read Errors:0 CRC Errors:0 Total Size:40,000,000,000 bytes (37.3GB) Total Sectors:78,125,000 Settings: size CD (640MB) fill none Write Block: 44 FastBloc2 FE
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-02 Image file in specified format.	as expected
AO-05 Multifile image created.	as expected
AO-22 Tool calculates hashes by block.	option not available
AO-23 Logged information is correct.	as expected
AO-24 Source is unchanged by acquisition.	not checked

Analysis:	Expected results achieved

5.2.26 DA-13

Test Case DA-13 EnCase 6.5	
Case Summary:	DA-13 Create an image file where there is insufficient space on a single volume, and use destination device switching to continue on another volume.
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-04 If the tool is creating an image file and there 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 multi-file image of a requested size then all the individual files shall be no larger than the requested size. AO-10 If there is insufficient space to contain all files of a multi-file image and if destination device switching is supported, the image is continued on another device. 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:	Freddy
Test Date:	Fri Mar 27 10:19:50 2009
Drives:	src(12-IDE) dst (none) other (25-IDE & 06-FU)
Source Setup:	src hash (SHA1): < 10DC1439E56093FFA6F11E10442106F27D899F67 > src hash (MD5): < ACAFB6838330FD24221199512A61D565 > 234441648 total sectors (120034123776 bytes) 14592/254/63 (max cyl/hd values) 14593/255/63 (number of cyl/hd) Model (00JB-00REA0) serial # (WD-WCANMD0605)
Log Highlights:	Start: 03/27/09 10:36:44AM Acquisition Hash: ACAFB6838330FD24221199512A61D565 Actual Date:03/27/09 10:36:44AM File Integrity:Completely Verified, 0 Errors Acquisition Hash:acafb6838330fd24221199512a61d565 Verify Hash:acafb6838330fd24221199512a61d565 EnCase Version:6.5 System Version:Windows 2000 Error Granularity:64 Read Errors:0 CRC Errors:0 Total Size:120,034,123,776 bytes (111.8GB) Total Sectors:234,441,648 Settings: size 640 MB Write Block: 22 FastBloc LE
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-04 User notified if space exhausted.	as expected
AO-05 Multifile image created.	as expected
AO-10 Image file continued on new device.	as expected

Test Case DA-13 EnCase 6.5		
	AO-22 Tool calculates hashes by block.	option not available
	AO-23 Logged information is correct.	as expected
	AO-24 Source is unchanged by acquisition.	not checked
Analysis:	Expected results achieved	

5.2.27 DA-14-ATA28

Test Case DA-14-ATA28 EnCase 6.5	
Case Summary:	DA-14 Create an unaligned clone from an image file.
Assertions:	AM-03 The tool executes in execution environment XE. AO-12 If requested, a clone is created from an image file. 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-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
Tester Name:	mrmw
Test Host:	Max
Test Date:	Tue Jul 10 13:00:46 2007
Drives:	src(43) dst (02) other (01-FU)
Source Setup:	src hash (SHA256): < 2658F47603DE6B1D883B64823E9733F578658D08D06A4BB8C053C4F57BDC615E > src hash (SHA1): < 888E2E7F7AD237DC7A732281DD93F325065E5871 > src hash (MD5): < BC39C3F7EE7A50E77B9BA1E65A5AEEF7 > 78125000 total sectors (40000000000 bytes) Model (0BB-75JHC0) serial # (WD-WMAMC46588) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 020980827 0000/001/01 1023/254/63 0C Fat32X 2 X 020980890 057143205 1023/000/01 1023/254/63 0F extended 3 S 000000063 000032067 1023/001/01 1023/254/63 01 Fat12 4 x 000032130 002104515 1023/000/01 1023/254/63 05 extended 5 S 000000063 002104452 1023/001/01 1023/254/63 06 Fat16 6 x 002136645 004192965 1023/000/01 1023/254/63 05 extended 7 S 000000063 004192902 1023/001/01 1023/254/63 16 other 8 x 006329610 008401995 1023/000/01 1023/254/63 05 extended 9 S 000000063 008401932 1023/001/01 1023/254/63 0B Fat32 10 x 014731605 010490445 1023/000/01 1023/254/63 05 extended 11 S 000000063 010490382 1023/001/01 1023/254/63 83 Linux 12 x 025222050 004209030 1023/000/01 1023/254/63 05 extended 13 S 000000063 004208967 1023/001/01 1023/254/63 82 Linux swap 14 x 029431080 027712125 1023/000/01 1023/254/63 05 extended 15 S 000000063 027712062 1023/001/01 1023/254/63 07 NTFS 16 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 17 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 18 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 1 020980827 sectors 10742183424 bytes 3 000032067 sectors 16418304 bytes 5 002104452 sectors 1077479424 bytes 7 004192902 sectors 2146765824 bytes 9 008401932 sectors 4301789184 bytes 11 010490382 sectors 5371075584 bytes 13 004208967 sectors 2154991104 bytes 15 027712062 sectors 14188575744 bytes
Log Highlights:	Destination setup 78165360 sectors wiped with 2 Comparision of original to clone Drive Sectors compared: 78125000 Sectors match: 78125000 Sectors differ: 0 Bytes differ: 0 Diffs range Source (78125000) has 40360 fewer sectors than destination (78165360) Zero fill: 0 Src Byte fill (43): 0 Dst Byte fill (02): 40360

Test Case DA-14-ATA28 EnCase 6.5	
	Other fill: 0 Other no fill: 0 Zero fill range: Src fill range: Dst fill range: 78125000-78165359 Other fill range: Other not filled range: 0 source read errors, 0 destination read errors Start: 07/10/07 03:56:32PM Total Sectors: 78,165,360 Input Hash: BC39C3F7EE7A50E77B9BA1E65A5AEEF7 Settings: fill none
Results:	
Analysis:	Expected results achieved

Assertion & Expected Result	**Actual Result**
AM-03 Execution environment is XE.	as expected
AO-12 A clone is created from an image file.	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-23 Logged information is correct.	as expected

5.2.28 DA-14-ATA48

Test Case DA-14-ATA48 EnCase 6.5	
Case Summary:	DA-14 Create an unaligned clone from an image file.
Assertions:	AM-03 The tool executes in execution environment XE. AO-12 If requested, a clone is created from an image file. 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-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
Tester Name:	mrmw
Test Host:	Frank
Test Date:	Tue Jul 31 11:09:56 2007
Drives:	src(4C) dst (29) other (04-FU)
Source Setup:	src hash (SHA1): < 8FF620D2BEDCCAFE8412EDAAD56C8554F872EFBF > src hash (MD5): < D10F763B56D4CEBA2D1311C61F9FB382 > 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) 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 000000000 0000/000/00 0000/000/00 00 empty entry 3 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 4 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 1 390700737 sectors 200038777344 bytes
Log Highlights:	Destination setup 488397168 sectors wiped with 29 Comparision of original to clone Drive Sectors compared: 390721968 Sectors match: 390721968 Sectors differ: 0 Bytes differ: 0 Diffs range Source (390721968) has 97675200 fewer sectors than destination (488397168) Zero fill: 0 Src Byte fill (4C): 0 Dst Byte fill (29): 97675200 Other fill: 0 Other no fill: 0 Zero fill range: Src fill range: Dst fill range: 390721968-488397167 Other fill range: Other not filled range: 0 source read errors, 0 destination read errors Starting Extent:0S0 Actual Date:07/31/07 08:25:56AM File Integrity:Completely Verified, 0 Errors Acquisition Hash:d10f763b56d4ceba2d1311c61f9fb382 Verify Hash:d10f763b56d4ceba2d1311c61f9fb382 EnCase Version:6.5 System Version:Windows 2003 Server Error Granularity:64 Read Errors:0 CRC Errors:0 Total Size:200,049,647,616 bytes (186.3GB) Total Sectors:390,721,968 Settings: fill none

Test Case DA-14-ATA48 EnCase 6.5	
Results:	

Assertion & Expected Result	Actual Result
AM-03 Execution environment is XE.	as expected
AO-12 A clone is created from an image file.	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-23 Logged information is correct.	as expected

Analysis:	Expected results achieved

5.2.29 DA-14-BEST

Test Case DA-14-BEST EnCase 6.5	
Case Summary:	DA-14 Create an unaligned clone from an image file.
Assertions:	AM-03 The tool executes in execution environment XE. AO-12 If requested, a clone is created from an image file. 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-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
Tester Name:	mrmw
Test Host:	Frank
Test Date:	Wed Oct 3 14:52:03 2007
Drives:	src(43) dst (09) other (01-FU)
Source Setup:	src hash (SHA256): < 2658F47603DE6B1D883B64823E9733F578658D08D06A4BB8C053C4F57BDC615E > src hash (SHA1): < 888E2E7F7AD237DC7A732281DD93F325065E5871 > src hash (MD5): < BC39C3F7EE7A50E77B9BA1E65A5AEEF7 > 78125000 total sectors (40000000000 bytes) Model (0BB-75JHC0) serial # (WD-WMAMC46588) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 020980827 0000/001/01 1023/254/63 0C Fat32X 2 X 020980890 057143205 1023/000/01 1023/254/63 0F extended 3 S 000000063 000032067 1023/001/01 1023/254/63 01 Fat12 4 x 000032130 002104515 1023/000/01 1023/254/63 05 extended 5 S 000000063 002104452 1023/001/01 1023/254/63 06 Fat16 6 x 002136645 004192965 1023/000/01 1023/254/63 05 extended 7 S 000000063 004192902 1023/001/01 1023/254/63 16 other 8 x 006329610 008401995 1023/000/01 1023/254/63 05 extended 9 S 000000063 008401932 1023/001/01 1023/254/63 0B Fat32 10 x 014731605 010490445 1023/000/01 1023/254/63 05 extended 11 S 000000063 010490382 1023/001/01 1023/254/63 83 Linux 12 x 025222050 004209030 1023/000/01 1023/254/63 05 extended 13 S 000000063 004208967 1023/001/01 1023/254/63 82 Linux swap 14 x 029431080 027712125 1023/000/01 1023/254/63 05 extended 15 S 000000063 027712062 1023/001/01 1023/254/63 07 NTFS 16 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 17 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 18 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 1 020980827 sectors 10742183424 bytes 3 000032067 sectors 16418304 bytes 5 002104452 sectors 1077479424 bytes 7 004192902 sectors 2146765824 bytes 9 008401932 sectors 4301789184 bytes 11 010490382 sectors 5371075584 bytes 13 004208967 sectors 2154991104 bytes 15 027712062 sectors 14188575744 bytes
Log Highlights:	Destination setup 78165360 sectors wiped with 3 Comparision of original to clone Drive Sectors compared: 78125000 Sectors match: 78125000 Sectors differ: 0 Bytes differ: 0 Diffs range Source (78125000) has 21875001 fewer sectors than destination (100000001) Zero fill: 0 Src Byte fill (43): 0 Dst Byte fill (09): 21875001

Test Case DA-14-BEST EnCase 6.5

Other fill: 0
Other no fill: 0
Zero fill range:
Src fill range:
Dst fill range: 78125000-100000000
Other fill range:
Other not filled range:
0 source read errors, 0 destination read errors

Start: 10/03/07 03:30:50PM
Total Sectors: 100,000,001
Input Hash: BC39C3F7EE7A50E77B9BA1E65A5AEEF7
Actual Date:08/07/07 03:27:51PM
File Integrity:Completely Verified, 0 Errors
Acquisition Hash:bc39c3f7ee7a50e77b9ba1e65a5aeef7
Verify Hash:bc39c3f7ee7a50e77b9ba1e65a5aeef7
EnCase Version:6.5
System Version:Windows 2000
Error Granularity:64
Read Errors:0
CRC Errors:0
Total Size:40,000,000,000 bytes (37.3GB)
Total Sectors:78,125,000
Settings: fill none

Results:

Assertion & Expected Result	Actual Result
AM-03 Execution environment is XE.	as expected
AO-12 A clone is created from an image file.	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-23 Logged information is correct.	as expected

Analysis: Expected results achieved

5.2.30 DA-14-CF

Test Case DA-14-CF EnCase 6.5	
Case Summary:	DA-14 Create an unaligned clone from an image file.
Assertions:	AM-03 The tool executes in execution environment XE. AO-12 If requested, a clone is created from an image file. 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-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
Tester Name:	brl
Test Host:	Freddy
Test Date:	Tue Mar 10 15:21:17 2009
Drives:	src(C1-CF) dst (C2-CF) other (none)
Source Setup:	src hash (SHA256): < C7CF0218222DF80D5316511D6814266C7FA507C13F795AD3D323BB73C1590D80 > src hash (SHA1): < 5B8235178DF99FA307430C088F81746606638A0B > src hash (MD5): < 776DF8B4D2589E21DEBCF589EDC16D78 > 503808 total sectors (257949696 bytes) Model (CF) serial # ()
Log Highlights:	Destination setup 503808 sectors wiped with C2 Comparision of original to clone Drive Sectors compared: 503808 Sectors match: 503807 Sectors differ: 1 Bytes differ: 1 Diffs range 1 0 source read errors, 0 destination read errors Start: 03/10/09 04:21:14PM Total Sectors: 503,808 Input Hash: 776DF8B4D2589E21DEBCF589EDC16D78 Output Hash: 776DF8B4D2589E21DEBCF589EDC16D78 Actual Date:03/10/09 02:40:08PM File Integrity:Completely Verified, 0 Errors Acquisition Hash:776df8b4d2589e21debcf589edc16d78 Verify Hash:776df8b4d2589e21debcf589edc16d78 EnCase Version:6.5 System Version:Windows 2000 Error Granularity:64 Read Errors:0 CRC Errors:0 Total Size:257,949,696 bytes (246MB) Total Sectors:503,808 Total Capacity:256,925,696 bytes (245MB) Total Clusters:125,452Unallocated:256,913,408 bytes (245MB) OEM Version:MSDOS5.0Serial Number:9C61-8B3A Settings: fill none
Results:	

Assertion & Expected Result	**Actual Result**
AM-03 Execution environment is XE.	as expected
AO-12 A clone is created from an image file.	as expected
AO-13 Clone created using interface AI.	as expected
AO-14 An unaligned clone is created.	some sectors differ
AO-17 Excess sectors are unchanged.	as expected
AO-23 Logged information is correct.	as expected

Test Case DA-14-CF EnCase 6.5	
Analysis:	Expected results not achieved

5.2.31 DA-14-F12

Test Case DA-14-F12 EnCase 6.5	
Case Summary:	DA-14 Create an unaligned clone from an image file.
Assertions:	AM-03 The tool executes in execution environment XE. AO-12 If requested, a clone is created from an image file. 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-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
Tester Name:	mrmw
Test Host:	Joe
Test Date:	Thu Oct 11 08:25:43 2007
Drives:	src(01-IDE) dst (03-IDE) other (06-FU)
Source Setup:	src hash (SHA1): < A48BB5665D6DC57C22DB68E2F723DA9AA8DF82B9 > src hash (MD5): < F458F673894753FA6A0EC8B8EC63848E > 78165360 total sectors (40020664320 bytes) Model (0BB-00JHC0) serial # (WD-WMAMC74171) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 020980827 0000/001/01 1023/254/63 0C Fat32X 2 X 020980890 057175335 1023/000/01 1023/254/63 0F extended 3 S 000000063 000032067 1023/001/01 1023/254/63 01 Fat12 4 x 000032130 002104515 1023/000/01 1023/254/63 05 extended 5 S 000000063 002104452 1023/001/01 1023/254/63 06 Fat16 6 x 002136645 004192965 1023/000/01 1023/254/63 05 extended 7 S 000000063 004192902 1023/001/01 1023/254/63 16 other 8 x 006329610 008401995 1023/000/01 1023/254/63 05 extended 9 S 000000063 008401932 1023/001/01 1023/254/63 0B Fat32 10 x 014731605 010490445 1023/000/01 1023/254/63 05 extended 11 S 000000063 010490382 1023/001/01 1023/254/63 83 Linux 12 x 025222050 004209030 1023/000/01 1023/254/63 05 extended 13 S 000000063 004208967 1023/001/01 1023/254/63 82 Linux swap 14 x 029431080 027744255 1023/000/01 1023/254/63 05 extended 15 S 000000063 027744192 1023/001/01 1023/254/63 07 NTFS 16 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 17 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 18 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 1 020980827 sectors 10742183424 bytes 3 000032067 sectors 16418304 bytes 5 002104452 sectors 1077479424 bytes 7 004192902 sectors 2146765824 bytes 9 008401932 sectors 4301789184 bytes 11 010490382 sectors 5371075584 bytes 13 004208967 sectors 2154991104 bytes 15 027744192 sectors 14205026304 bytes
Log Highlights:	Destination setup 78165360 sectors wiped with 3 Comparision of original to clone Partition Sectors compared: 32067 Sectors match: 32067 Sectors differ: 0 Bytes differ: 0 Diffs range: run start Thu Oct 11 09:00:26 2007 run finish Thu Oct 11 09:00:28 2007 elapsed time 0:0:2 Normal exit Start: 10/11/07 08:32:02AM Total Sectors: 32,067 Input Hash: E20E3CFEA80BF6F2D2AA75E829CC8CD9 Actual Date:09/26/07 01:40:19PM

<table>
<tr><td colspan="2">Test Case DA-14-F12 EnCase 6.5</td></tr>
<tr><td></td><td>File Integrity:Completely Verified, 0 Errors
Acquisition Hash:e20e3cfea80bf6f2d2aa75e829cc8cd9
Verify Hash:e20e3cfea80bf6f2d2aa75e829cc8cd9
EnCase Version:6.5
System Version:Windows 2000
Error Granularity:64
Read Errors:0
CRC Errors:0
Total Size:16,418,304 bytes (15.7MB)
Total Sectors:32,067
Total Capacity:16,384,000 bytes (15.6MB)
Total Clusters:4,000Unallocated:16,248,832 bytes (15.5MB)
OEM Version:MSWIN4.0Serial Number:8AC5-98DE
Settings: fill none</td></tr>
<tr><td>Results:</td><td>
<table>
<tr><th>Assertion & Expected Result</th><th>Actual Result</th></tr>
<tr><td>AM-03 Execution environment is XE.</td><td>as expected</td></tr>
<tr><td>AO-12 A clone is created from an image file.</td><td>as expected</td></tr>
<tr><td>AO-13 Clone created using interface AI.</td><td>as expected</td></tr>
<tr><td>AO-14 An unaligned clone is created.</td><td>as expected</td></tr>
<tr><td>AO-17 Excess sectors are unchanged.</td><td>as expected</td></tr>
<tr><td>AO-23 Logged information is correct.</td><td>as expected</td></tr>
</table>
</td></tr>
<tr><td>Analysis:</td><td>Expected results achieved</td></tr>
</table>

5.2.32 DA-14-F16

Test Case DA-14-F16 EnCase 6.5	
Case Summary:	DA-14 Create an unaligned clone from an image file.
Assertions:	AM-03 The tool executes in execution environment XE. AO-12 If requested, a clone is created from an image file. 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-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
Tester Name:	mrmw
Test Host:	Freddy
Test Date:	Fri Feb 8 13:35:38 2008
Drives:	src(43) dst (34-SATA) other (01-FU)
Source Setup:	src hash (SHA256): < 2658F47603DE6B1D883B64823E9733F578658D08D06A4BB8C053C4F57BDC615E > src hash (SHA1): < 888E2E7F7AD237DC7A732281DD93F325065E5871 > src hash (MD5): < BC39C3F7EE7A50E77B9BA1E65A5AEEF7 > 78125000 total sectors (40000000000 bytes) Model (0BB-75JHC0) serial # (WD-WMAMC46588) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 020980827 0000/001/01 1023/254/63 0C Fat32X 2 X 020980890 057143205 1023/000/01 1023/254/63 0F extended 3 S 000000063 000032067 1023/001/01 1023/254/63 01 Fat12 4 x 000032130 002104515 1023/000/01 1023/254/63 05 extended 5 S 000000063 002104452 1023/001/01 1023/254/63 06 Fat16 6 x 002136645 004192965 1023/000/01 1023/254/63 05 extended 7 S 000000063 004192902 1023/001/01 1023/254/63 16 other 8 x 006329610 008401995 1023/000/01 1023/254/63 05 extended 9 S 000000063 008401932 1023/001/01 1023/254/63 0B Fat32 10 x 014731605 010490445 1023/000/01 1023/254/63 05 extended 11 S 000000063 010490382 1023/001/01 1023/254/63 83 Linux 12 x 025222050 004209030 1023/000/01 1023/254/63 05 extended 13 S 000000063 004208967 1023/001/01 1023/254/63 82 Linux swap 14 x 029431080 027712125 1023/000/01 1023/254/63 05 extended 15 S 000000063 027712062 1023/001/01 1023/254/63 07 NTFS 16 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 17 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 18 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 1 020980827 sectors 10742183424 bytes 3 000032067 sectors 16418304 bytes 5 002104452 sectors 1077479424 bytes 7 004192902 sectors 2146765824 bytes 9 008401932 sectors 4301789184 bytes 11 010490382 sectors 5371075584 bytes 13 004208967 sectors 2154991104 bytes 15 027712062 sectors 14188575744 bytes
Log Highlights:	Comparision of original to clone Partition Sectors compared: 2104452 Sectors match: 2104452 Sectors differ: 0 Bytes differ: 0 Diffs range: Source (2104452) has 208845 fewer sectors than destination (2313297) Zero fill: 0 Src Byte fill (43): 0 Dst Byte fill (34): 208845 Other fill: 0 Other no fill: 0 Zero fill range:

Test Case DA-14-F16 EnCase 6.5

Src fill range:
Dst fill range: 2104452-2313296
Other fill range:
Other not filled range:
run start Fri Feb 8 14:27:25 2008
run finish Fri Feb 8 14:29:42 2008
elapsed time 0:2:17
Normal exit
Start: 02/08/08 02:14:48PM
Total Sectors: 2,313,297
Input Hash: 37E81FFB31C3CB38AA48B2237500908E
Actual Date:10/11/07 09:33:23AM
File Integrity:Completely Verified, 0 Errors
Acquisition Hash:37e81ffb31c3cb38aa48b2237500908e
Verify Hash:37e81ffb31c3cb38aa48b2237500908e
EnCase Version:6.5
System Version:Windows 2000
Error Granularity:64
Read Errors:0
CRC Errors:0
Total Size:1,077,479,424 bytes (1GB)
Total Sectors:2,104,452
Total Capacity:1,077,313,536 bytes (1GB)
Total Clusters:32,877Unallocated:1,076,953,088 bytes (1GB)
OEM Version:MSWIN4.0Serial Number:CCCF-3DAD

Results:

Assertion & Expected Result	Actual Result
AM-03 Execution environment is XE.	as expected
AO-12 A clone is created from an image file.	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-23 Logged information is correct.	as expected

Analysis: Expected results achieved

5.2.33 DA-14-F32

Test Case DA-14-F32 EnCase 6.5	
Case Summary:	DA-14 Create an unaligned clone from an image file.
Assertions:	AM-03 The tool executes in execution environment XE. AO-12 If requested, a clone is created from an image file. 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-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
Tester Name:	mrwm
Test Host:	Freddy
Test Date:	Fri Feb 8 15:00:45 2008
Drives:	src(01-IDE) dst (34-SATA) other (06-FU)
Source Setup:	src hash (SHA1): < A48BB5665D6DC57C22DB68E2F723DA9AA8DF82B9 > src hash (MD5): < F458F673894753FA6A0EC8B8EC63848E > 78165360 total sectors (40020664320 bytes) Model (0BB-00JHC0) serial # (WD-WMAMC74171) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 020980827 0000/001/01 1023/254/63 0C Fat32X 2 X 020980890 057175335 1023/000/01 1023/254/63 0F extended 3 S 000000063 000032067 1023/001/01 1023/254/63 01 Fat12 4 x 000032130 002104515 1023/000/01 1023/254/63 05 extended 5 S 000000063 002104452 1023/001/01 1023/254/63 06 Fat16 6 x 002136645 004192965 1023/000/01 1023/254/63 05 extended 7 S 000000063 004192902 1023/001/01 1023/254/63 16 other 8 x 006329610 008401995 1023/000/01 1023/254/63 05 extended 9 S 000000063 008401932 1023/001/01 1023/254/63 0B Fat32 10 x 014731605 010490445 1023/000/01 1023/254/63 05 extended 11 S 000000063 010490382 1023/001/01 1023/254/63 83 Linux 12 x 025222050 004209030 1023/000/01 1023/254/63 05 extended 13 S 000000063 004208967 1023/001/01 1023/254/63 82 Linux swap 14 x 029431080 027744255 1023/000/01 1023/254/63 05 extended 15 S 000000063 027744192 1023/001/01 1023/254/63 07 NTFS 16 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 17 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 18 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 1 020980827 sectors 10742183424 bytes 3 000032067 sectors 16418304 bytes 5 002104452 sectors 1077479424 bytes 7 004192902 sectors 2146765824 bytes 9 008401932 sectors 4301789184 bytes 11 010490382 sectors 5371075584 bytes 13 004208967 sectors 2154991104 bytes 15 027744192 sectors 14205026304 bytes
Log Highlights:	Comparision of original to clone Partition Sectors compared: 8401932 Sectors match: 8401929 Sectors differ: 3 Bytes differ: 3 Diffs range: 1, 36, 8226 run start Mon Feb 11 16:10:30 2008 run finish Mon Feb 11 16:18:44 2008 elapsed time 0:8:14 Normal exit Start: 10/12/07 08:20:36AM Total Sectors: 8,401,932 Input Hash: BFF7DC64C54339DA2A9D7972C076B514 Actual Date:09/26/07 02:57:11PM File Integrity:Completely Verified, 0 Errors

<table>
<tr><td colspan="2">Test Case DA-14-F32 EnCase 6.5</td></tr>
<tr><td></td><td>Acquisition Hash:bff7dc64c54339da2a9d7972c076b514
Verify Hash:bff7dc64c54339da2a9d7972c076b514
EnCase Version:6.5
System Version:Windows XP
Error Granularity:64
Read Errors:0
CRC Errors:0
Total Size:4,301,789,184 bytes (4GB)
Total Sectors:8,401,932
Total Capacity:4,293,382,144 bytes (4GB)
Total Clusters:1,048,189Unallocated:4,292,919,296 bytes (4GB)
OEM Version:MSWIN4.1Serial Number:5AEE-05B5
Settings: fill none</td></tr>
<tr><td>Results:</td><td>
<table>
<tr><th>Assertion & Expected Result</th><th>Actual Result</th></tr>
<tr><td>AM-03 Execution environment is XE.</td><td>as expected</td></tr>
<tr><td>AO-12 A clone is created from an image file.</td><td>as expected</td></tr>
<tr><td>AO-13 Clone created using interface AI.</td><td>as expected</td></tr>
<tr><td>AO-14 An unaligned clone is created.</td><td>some sectors differ</td></tr>
<tr><td>AO-17 Excess sectors are unchanged.</td><td>as expected</td></tr>
<tr><td>AO-23 Logged information is correct.</td><td>as expected</td></tr>
</table>
</td></tr>
<tr><td>Analysis:</td><td>Expected results not achieved</td></tr>
</table>

5.2.34 DA-14-F32-ALT

Test Case DA-14-F32-ALT EnCase 6.5	
Case Summary:	DA-14 Create an unaligned clone from an image file.
Assertions:	AM-03 The tool executes in execution environment XE. AO-12 If requested, a clone is created from an image file. 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-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
Tester Name:	mrmw
Test Host:	Freddy
Test Date:	Tue Feb 12 07:25:38 2008
Drives:	src(01-IDE) dst (34-SATA) other (06-FU)
Source Setup:	src hash (SHA1): < A48BB5665D6DC57C22DB68E2F723DA9AA8DF82B9 > src hash (MD5): < F458F673894753FA6A0EC8B8EC63848E > 78165360 total sectors (40020664320 bytes) Model (0BB-00JHC0) serial # (WD-WMAMC74171) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 020980827 0000/001/01 1023/254/63 0C Fat32X 2 X 020980890 057175335 1023/000/01 1023/254/63 0F extended 3 S 000000063 000032067 1023/001/01 1023/254/63 01 Fat12 4 x 000032130 002104515 1023/000/01 1023/254/63 05 extended 5 S 000000063 002104452 1023/001/01 1023/254/63 06 Fat16 6 x 002136645 004192965 1023/000/01 1023/254/63 05 extended 7 S 000000063 004192902 1023/001/01 1023/254/63 16 other 8 x 006329610 008401995 1023/000/01 1023/254/63 05 extended 9 S 000000063 008401932 1023/001/01 1023/254/63 0B Fat32 10 x 014731605 010490445 1023/000/01 1023/254/63 05 extended 11 S 000000063 010490382 1023/001/01 1023/254/63 83 Linux 12 x 025222050 004209030 1023/000/01 1023/254/63 05 extended 13 S 000000063 004208967 1023/001/01 1023/254/63 82 Linux swap 14 x 029431080 027744255 1023/000/01 1023/254/63 05 extended 15 S 000000063 027744192 1023/001/01 1023/254/63 07 NTFS 16 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 17 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 18 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 1 020980827 sectors 10742183424 bytes 3 000032067 sectors 16418304 bytes 5 002104452 sectors 1077479424 bytes 7 004192902 sectors 2146765824 bytes 9 008401932 sectors 4301789184 bytes 11 010490382 sectors 5371075584 bytes 13 004208967 sectors 2154991104 bytes 15 027744192 sectors 14205026304 bytes
Log Highlights:	Comparision of original to clone Partition Sectors compared: 8401932 Sectors match: 8401932 Sectors differ: 0 Bytes differ: 0 Diffs range: run start Tue Feb 12 08:08:25 2008 run finish Tue Feb 12 08:16:44 2008 elapsed time 0:8:19 Normal exit Start: 02/12/08 05:37:48AM Total Sectors: 8,401,932 Input Hash: BFF7DC64C54339DA2A9D7972C076B514 Actual Date:02/11/08 01:32:14PM File Integrity:Completely Verified, 0 Errors

<table>
<tr><td colspan="2">Test Case DA-14-F32-ALT EnCase 6.5</td></tr>
<tr><td></td><td>Acquisition Hash:bff7dc64c54339da2a9d7972c076b514
Verify Hash:bff7dc64c54339da2a9d7972c076b514
EnCase Version:6.5
System Version:Windows 2003 Server
Error Granularity:64
Read Errors:0
CRC Errors:0
Total Size:4,301,789,184 bytes (4GB)
Total Sectors:8,401,932
Total Capacity:4,293,382,144 bytes (4GB)
Total Clusters:1,048,189Unallocated:4,292,919,296 bytes (4GB)
OEM Version:MSWIN4.1Serial Number:5AEE-05B5
Settings: fill none</td></tr>
<tr><td>Results:</td><td>
<table>
<tr><th>Assertion & Expected Result</th><th>Actual Result</th></tr>
<tr><td>AM-03 Execution environment is XE.</td><td>as expected</td></tr>
<tr><td>AO-12 A clone is created from an image file.</td><td>as expected</td></tr>
<tr><td>AO-13 Clone created using interface AI.</td><td>as expected</td></tr>
<tr><td>AO-14 An unaligned clone is created.</td><td>as expected</td></tr>
<tr><td>AO-17 Excess sectors are unchanged.</td><td>as expected</td></tr>
<tr><td>AO-23 Logged information is correct.</td><td>as expected</td></tr>
</table>
</td></tr>
<tr><td>Analysis:</td><td>Expected results achieved</td></tr>
</table>

5.2.35 DA-14-F32X

Test Case DA-14-F32X EnCase 6.5	
Case Summary:	DA-14 Create an unaligned clone from an image file.
Assertions:	AM-03 The tool executes in execution environment XE. AO-12 If requested, a clone is created from an image file. 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-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
Tester Name:	mrmw
Test Host:	Joe
Test Date:	Tue Mar 25 10:23:30 2008
Drives:	src(43) dst (02-IDE) other (01-FU)
Source Setup:	src hash (SHA256): < 2658F47603DE6B1D883B64823E9733F578658D08D06A4BB8C053C4F57BDC615E > src hash (SHA1): < 888E2E7F7AD237DC7A732281DD93F325065E5871 > src hash (MD5): < BC39C3F7EE7A50E77B9BA1E65A5AEEF7 > 78125000 total sectors (40000000000 bytes) Model (0BB-75JHC0) serial # (WD-WMAMC46588) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 020980827 0000/001/01 1023/254/63 0C Fat32X 2 X 020980890 057143205 1023/000/01 1023/254/63 0F extended 3 S 000000063 000032067 1023/001/01 1023/254/63 01 Fat12 4 x 000032130 002104515 1023/000/01 1023/254/63 05 extended 5 S 000000063 002104452 1023/001/01 1023/254/63 06 Fat16 6 x 002136645 004192965 1023/000/01 1023/254/63 05 extended 7 S 000000063 004192902 1023/001/01 1023/254/63 16 other 8 x 006329610 008401995 1023/000/01 1023/254/63 05 extended 9 S 000000063 008401932 1023/001/01 1023/254/63 0B Fat32 10 x 014731605 010490445 1023/000/01 1023/254/63 05 extended 11 S 000000063 010490382 1023/001/01 1023/254/63 83 Linux 12 x 025222050 004209030 1023/000/01 1023/254/63 05 extended 13 S 000000063 004208967 1023/001/01 1023/254/63 82 Linux swap 14 x 029431080 027712125 1023/000/01 1023/254/63 05 extended 15 S 000000063 027712062 1023/001/01 1023/254/63 07 NTFS 16 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 17 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 18 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 1 020980827 sectors 10742183424 bytes 3 000032067 sectors 16418304 bytes 5 002104452 sectors 1077479424 bytes 7 004192902 sectors 2146765824 bytes 9 008401932 sectors 4301789184 bytes 11 010490382 sectors 5371075584 bytes 13 004208967 sectors 2154991104 bytes 15 027712062 sectors 14188575744 bytes
Log Highlights:	Comparision of original to clone Partition Sectors compared: 20980827 Sectors match: 20980824 Sectors differ: 3 Bytes differ: 3 Diffs range: 1, 32, 10268 Source (20980827) has 2104515 fewer sectors than destination (23085342) Zero fill: 0 Src Byte fill (43): 0 Dst Byte fill (01): 0 Other fill: 2104515 Other no fill: 0 Zero fill range:

Test Case DA-14-F32X EnCase 6.5	
	Src fill range: Dst fill range: Other fill range: 20980827-23085341 Other not filled range: run start Tue Mar 25 10:49:44 2008 run finish Tue Mar 25 11:08:10 2008 elapsed time 0:18:26 Normal exit Start: 02/12/08 01:19:00PM Acquisition Hash: 5980CB0FA68E9862C65765DF50F00906 Start: 03/25/08 10:37:15AM Total Sectors: 20,980,827 Input Hash: 5980CB0FA68E9862C65765DF50F00906 Actual Date:10/11/07 12:15:31PM File Integrity:Completely Verified, 0 Errors Acquisition Hash:5980cb0fa68e9862c65765df50f00906 Verify Hash:5980cb0fa68e9862c65765df50f00906 EnCase Version:6.5 System Version:Windows XP Error Granularity:64 Read Errors:0 CRC Errors:0 Total Size:10,742,183,424 bytes (10GB) Total Sectors:20,980,827 Total Capacity:10,731,683,840 bytes (10GB) Total Clusters:1,310,020Unallocated:10,729,906,176 bytes (10GB) OEM Version:MSWIN4.1Serial Number:4445-13C7 Settings: fill none
Results:	
Analysis:	Expected results not achieved

Assertion & Expected Result	**Actual Result**
AM-03 Execution environment is XE.	as expected
AO-12 A clone is created from an image file.	as expected
AO-13 Clone created using interface AI.	as expected
AO-14 An unaligned clone is created.	some sectors differ
AO-17 Excess sectors are unchanged.	as expected
AO-23 Logged information is correct.	as expected

5.2.36 DA-14-F32X-ALT

Test Case DA-14-F32X-ALT EnCase 6.5	
Case Summary:	DA-14 Create an unaligned clone from an image file.
Assertions:	AM-03 The tool executes in execution environment XE. AO-12 If requested, a clone is created from an image file. 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-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
Tester Name:	mrmw
Test Host:	Joe
Test Date:	Tue Mar 25 11:20:41 2008
Drives:	src(43) dst (02-IDE) other (01-FU)
Source Setup:	src hash (SHA256): < 2658F47603DE6B1D883B64823E9733F578658D08D06A4BB8C053C4F57BDC615E > src hash (SHA1): < 888E2E7F7AD237DC7A732281DD93F325065E5871 > src hash (MD5): < BC39C3F7EE7A50E77B9BA1E65A5AEEF7 > 78125000 total sectors (40000000000 bytes) Model (0BB-75JHC0) serial # (WD-WMAMC46588) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 020980827 0000/001/01 1023/254/63 0C Fat32X 2 X 020980890 057143205 1023/000/01 1023/254/63 0F extended 3 S 000000063 000032067 1023/001/01 1023/254/63 01 Fat12 4 x 000032130 002104515 1023/000/01 1023/254/63 05 extended 5 S 000000063 002104452 1023/001/01 1023/254/63 06 Fat16 6 x 002136645 004192965 1023/000/01 1023/254/63 05 extended 7 S 000000063 004192902 1023/001/01 1023/254/63 16 other 8 x 006329610 008401995 1023/000/01 1023/254/63 05 extended 9 S 000000063 008401932 1023/001/01 1023/254/63 0B Fat32 10 x 014731605 010490445 1023/000/01 1023/254/63 05 extended 11 S 000000063 010490382 1023/001/01 1023/254/63 83 Linux 12 x 025222050 004209030 1023/000/01 1023/254/63 05 extended 13 S 000000063 004208967 1023/001/01 1023/254/63 82 Linux swap 14 x 029431080 027712125 1023/000/01 1023/254/63 05 extended 15 S 000000063 027712062 1023/001/01 1023/254/63 07 NTFS 16 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 17 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 18 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 1 020980827 sectors 10742183424 bytes 3 000032067 sectors 16418304 bytes 5 002104452 sectors 1077479424 bytes 7 004192902 sectors 2146765824 bytes 9 008401932 sectors 4301789184 bytes 11 010490382 sectors 5371075584 bytes 13 004208967 sectors 2154991104 bytes 15 027712062 sectors 14188575744 bytes
Log Highlights:	Comparision of original to clone Partition Sectors compared: 20980827 Sectors match: 20980827 Sectors differ: 0 Bytes differ: 0 Diffs range: Source (20980827) has 2104515 fewer sectors than destination (23085342) Zero fill: 0 Src Byte fill (43): 0 Dst Byte fill (01): 0 Other fill: 2104515 Other no fill: 0 Zero fill range:

Test Case DA-14-F32X-ALT EnCase 6.5	
	Src fill range: Dst fill range: Other fill range: 20980827-23085341 Other not filled range: run start Tue Mar 25 13:44:58 2008 run finish Tue Mar 25 14:03:06 2008 elapsed time 0:18:8 Normal exit Start: 03/25/08 11:59:56AM Total Sectors: 23,085,342 Input Hash: 5980CB0FA68E9862C65765DF50F00906 Actual Date:10/11/07 12:15:31PM File Integrity:Completely Verified, 0 Errors Acquisition Hash:5980cb0fa68e9862c65765df50f00906 Verify Hash:5980cb0fa68e9862c65765df50f00906 EnCase Version:6.5 System Version:Windows XP Error Granularity:64 Read Errors:0 CRC Errors:0 Total Size:10,742,183,424 bytes (10GB) Total Sectors:20,980,827 Total Capacity:10,731,683,840 bytes (10GB) Total Clusters:1,310,020Unallocated:10,729,906,176 bytes (10GB) OEM Version:MSWIN4.1Serial Number:4445-13C7 Settings: fill none
Results:	**Assertion & Expected Result** / **Actual Result** AM-03 Execution environment is XE. — as expected AO-12 A clone is created from an image file. — 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-23 Logged information is correct. — as expected
Analysis:	Expected results achieved

5.2.37 DA-14-FLOPPY

Test Case DA-14-FLOPPY EnCase 6.5	
Case Summary:	DA-14 Create an unaligned clone from an image file.
Assertions:	AM-03 The tool executes in execution environment XE. AO-12 If requested, a clone is created from an image file. 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-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
Tester Name:	mrmw
Test Host:	Freddy
Test Date:	Tue Jul 31 12:08:30 2007
Drives:	src(floppy) dst (floppy2) other (01-FU)
Source Setup:	src hash (SHA1): < e2863334ac7eaabc7c8a0d62eb0d3b3af29f2c40 > src hash (MD5): < 17f6a5925be2f38eedaf435ff8b6a6f4 > Floppy disk
Log Highlights:	Destination setup Starting Extent:0da-06-floppy-S19 Total Capacity:1,457,664 bytes (1.4MB) Total Clusters:2,847Unallocated:1,380,352 bytes (1.3MB) OEM Version:MSDOS5.0Serial Number:AC00-86E5 Actual Date:07/31/07 10:52:49AM File Integrity:Completely Verified, 0 Errors Acquisition Hash:17f6a5925be2f38eedaf435ff8b6a6f4 Verify Hash:17f6a5925be2f38eedaf435ff8b6a6f4 EnCase Version:6.5 System Version:Windows 2000 Error Granularity:64 Read Errors:0 CRC Errors:0 Total Size:1,474,560 bytes (1.4MB) Total Sectors:2,880 Settings: fill none
Results:	
Analysis:	Expected results achieved

Assertion & Expected Result	**Actual Result**
AM-03 Execution environment is XE.	as expected
AO-12 A clone is created from an image file.	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-23 Logged information is correct.	as expected

5.2.38 DA-14-FW

Test Case DA-14-FW EnCase 6.5	
Case Summary:	DA-14 Create an unaligned clone from an image file.
Assertions:	AM-03 The tool executes in execution environment XE. AO-12 If requested, a clone is created from an image file. 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-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
Tester Name:	mrmw
Test Host:	Freddy
Test Date:	Wed Oct 3 13:37:59 2007
Drives:	src(01-IDE) dst (05-IDE) other (01-FU)
Source Setup:	src hash (SHA1): < A48BB5665D6DC57C22DB68E2F723DA9AA8DF82B9 > src hash (MD5): < F458F673894753FA6A0EC8B8EC63848E > 78165360 total sectors (40020664320 bytes) Model (0BB-00JHC0) serial # (WD-WMAMC74171) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 020980827 0000/001/01 1023/254/63 0C Fat32X 2 X 020980890 057175335 1023/000/01 1023/254/63 0F extended 3 S 000000063 000032067 1023/001/01 1023/254/63 01 Fat12 4 x 000032130 002104515 1023/000/01 1023/254/63 05 extended 5 S 000000063 002104452 1023/001/01 1023/254/63 06 Fat16 6 x 002136645 004192965 1023/000/01 1023/254/63 05 extended 7 S 000000063 004192902 1023/001/01 1023/254/63 16 other 8 x 006329610 008401995 1023/000/01 1023/254/63 05 extended 9 S 000000063 008401932 1023/001/01 1023/254/63 0B Fat32 10 x 014731605 010490445 1023/000/01 1023/254/63 05 extended 11 S 000000063 010490382 1023/001/01 1023/254/63 83 Linux 12 x 025222050 004209030 1023/000/01 1023/254/63 05 extended 13 S 000000063 004208967 1023/001/01 1023/254/63 82 Linux swap 14 x 029431080 027744255 1023/000/01 1023/254/63 05 extended 15 S 000000063 027744192 1023/001/01 1023/254/63 07 NTFS 16 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 17 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 18 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 1 020980827 sectors 10742183424 bytes 3 000032067 sectors 16418304 bytes 5 002104452 sectors 1077479424 bytes 7 004192902 sectors 2146765824 bytes 9 008401932 sectors 4301789184 bytes 11 010490382 sectors 5371075584 bytes 13 004208967 sectors 2154991104 bytes 15 027744192 sectors 14205026304 bytes
Log Highlights:	Destination setup 78165360 sectors wiped with 5 Comparision of original to clone Drive Sectors compared: 78165360 Sectors match: 78165360 Sectors differ: 0 Bytes differ: 0 Diffs range 0 source read errors, 0 destination read errors Start: 10/04/07 08:03:13AM Total Sectors: 78,165,360 Input Hash: F458F673894753FA6A0EC8B8EC63848E Actual Date:08/01/07 09:41:02AM File Integrity:Completely Verified, 0 Errors

<table>
<tr><td colspan="2">Test Case DA-14-FW EnCase 6.5</td></tr>
<tr><td></td><td>Acquisition Hash:f458f673894753fa6a0ec8b8ec63848e
Verify Hash:f458f673894753fa6a0ec8b8ec63848e
EnCase Version:6.5
System Version:Windows XP
Error Granularity:64
Read Errors:0
CRC Errors:0
Total Size:40,020,664,320 bytes (37.3GB)
Total Sectors:78,165,360
Settings: fill none</td></tr>
<tr><td>Results:</td><td>
<table>
<tr><th>Assertion & Expected Result</th><th>Actual Result</th></tr>
<tr><td>AM-03 Execution environment is XE.</td><td>as expected</td></tr>
<tr><td>AO-12 A clone is created from an image file.</td><td>as expected</td></tr>
<tr><td>AO-13 Clone created using interface AI.</td><td>as expected</td></tr>
<tr><td>AO-14 An unaligned clone is created.</td><td>as expected</td></tr>
<tr><td>AO-17 Excess sectors are unchanged.</td><td>as expected</td></tr>
<tr><td>AO-23 Logged information is correct.</td><td>as expected</td></tr>
</table>
</td></tr>
<tr><td>Analysis:</td><td>Expected results achieved</td></tr>
</table>

5.2.39 DA-14-HOT

Test Case DA-14-HOT EnCase 6.5	
Case Summary:	DA-14 Create an unaligned clone from an image file.
Assertions:	AM-03 The tool executes in execution environment XE. AO-12 If requested, a clone is created from an image file. 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-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
Tester Name:	brl
Test Host:	Freddy
Test Date:	Mon Mar 30 10:25:27 2009
Drives:	src(12-IDE) dst (3F-SATA) other (none)
Source Setup:	src hash (SHA1): < 10DC1439E56093FFA6F11E10442106F27D899F67 > src hash (MD5): < ACAFB6838330FD24221199512A61D565 > 234441648 total sectors (120034123776 bytes) 14592/254/63 (max cyl/hd values) 14593/255/63 (number of cyl/hd) Model (00JB-00REA0) serial # (WD-WCANMD0605)
Log Highlights:	Destination setup 312581808 sectors wiped with 3F Comparision of original to clone Drive Sectors compared: 234441648 Sectors match: 234441648 Sectors differ: 0 Bytes differ: 0 Diffs range Source (234441648) has 78140160 fewer sectors than destination (312581808) Zero fill: 0 Src Byte fill (12): 0 Dst Byte fill (3F): 78140160 Other fill: 0 Other no fill: 0 Zero fill range: Src fill range: Dst fill range: 234441648-312581807 Other fill range: Other not filled range: 0 source read errors, 0 destination read errors Start: 03/30/09 01:56:50PM Total Sectors: 268,435,455 Input Hash: ACAFB6838330FD24221199512A61D565 Output Hash: ACAFB6838330FD24221199512A61D565 Actual Date:03/27/09 10:36:44AM File Integrity:Completely Verified, 0 Errors Acquisition Hash:acafb6838330fd24221199512a61d565 Verify Hash:acafb6838330fd24221199512a61d565 EnCase Version:6.5 System Version:Windows 2000 Error Granularity:64 Read Errors:0 CRC Errors:0 Total Size:120,034,123,776 bytes (111.8GB) Total Sectors:234,441,648 Settings: fill none
Results:	**Assertion & Expected Result** | **Actual Result**

Test Case DA-14-HOT EnCase 6.5		
	AM-03 Execution environment is XE.	as expected
	AO-12 A clone is created from an image file.	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-23 Logged information is correct.	as expected
Analysis:	Expected results achieved	

5.2.40 DA-14-NTFS

Test Case DA-14-NTFS EnCase 6.5	
Case Summary:	DA-14 Create an unaligned clone from an image file.
Assertions:	AM-03 The tool executes in execution environment XE. AO-12 If requested, a clone is created from an image file. 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-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
Tester Name:	mrmw
Test Host:	Joe
Test Date:	Wed Mar 26 07:51:48 2008
Drives:	src(01-IDE) dst (02-IDE) other (06-FU)
Source Setup:	src hash (SHA1): < A48BB5665D6DC57C22DB68E2F723DA9AA8DF82B9 > src hash (MD5): < F458F673894753FA6A0EC8B8EC63848E > 78165360 total sectors (40020664320 bytes) Model (0BB-00JHC0) serial # (WD-WMAMC74171) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 020980827 0000/001/01 1023/254/63 0C Fat32X 2 X 020980890 057175335 1023/000/01 1023/254/63 0F extended 3 S 000000063 000032067 1023/001/01 1023/254/63 01 Fat12 4 x 000032130 002104515 1023/000/01 1023/254/63 05 extended 5 S 000000063 002104452 1023/001/01 1023/254/63 06 Fat16 6 x 002136645 004192965 1023/000/01 1023/254/63 05 extended 7 S 000000063 004192902 1023/001/01 1023/254/63 16 other 8 x 006329610 008401995 1023/000/01 1023/254/63 05 extended 9 S 000000063 008401932 1023/001/01 1023/254/63 0B Fat32 10 x 014731605 010490445 1023/000/01 1023/254/63 05 extended 11 S 000000063 010490382 1023/001/01 1023/254/63 83 Linux 12 x 025222050 004209030 1023/000/01 1023/254/63 05 extended 13 S 000000063 004208967 1023/001/01 1023/254/63 82 Linux swap 14 x 029431080 027744255 1023/000/01 1023/254/63 05 extended 15 S 000000063 027744192 1023/001/01 1023/254/63 07 NTFS 16 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 17 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 18 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 1 020980827 sectors 10742183424 bytes 3 000032067 sectors 16418304 bytes 5 002104452 sectors 1077479424 bytes 7 004192902 sectors 2146765824 bytes 9 008401932 sectors 4301789184 bytes 11 010490382 sectors 5371075584 bytes 13 004208967 sectors 2154991104 bytes 15 027744192 sectors 14205026304 bytes Excess destination partition sectors hash: CMD: /media/sdf/machash/machash.csh da-14-ntfs Joe mrmw /dev/hda5 02-IDE -winsize 14205026304 -before -new_log SHA1 0 - 14205026303 = 2DAD4B167CA653C24627D9F1718354161D05227A SHA1 14205026304 - 15734928383 = 94857C5955E626935D217EBAC326FF718BBC86BA
Log Highlights:	Comparision of original to clone Partition Sectors compared: 27744192 Sectors match: 27744148 Sectors differ: 44 Bytes differ: 3721 Diffs range: 6160368-6160389, 6160392-6160397, 6160400-6160407, 27744184-27744191 Source (27744192) has 2988090 fewer sectors than destination (30732282) Zero fill: 0 Src Byte fill (01): 0

Test Case DA-14-NTFS EnCase 6.5	
	Dst Byte fill (02): 2988089 Other fill: 0 Other no fill: 1 Zero fill range: Src fill range: Dst fill range: 27744192-30732280 Other fill range: Other not filled range: 30732281 run start Wed Mar 26 08:55:44 2008 run finish Wed Mar 26 09:19:46 2008 elapsed time 0:24:2 Normal exit Start: 03/26/08 08:38:29AM Total Sectors: 30,732,281 Input Hash: 494A6ED8A827AD9B5403E0CC89379956 Actual Date:09/26/07 03:22:35PM File Integrity:Completely Verified, 0 Errors Acquisition Hash:494a6ed8a827ad9b5403e0cc89379956 Verify Hash:494a6ed8a827ad9b5403e0cc89379956 EnCase Version:6.5 System Version:Windows 2003 Server Error Granularity:64 Read Errors:0 CRC Errors:0 Total Size:14,205,025,792 bytes (13.2GB) Total Sectors:27,744,191 Total Capacity:14,205,022,208 bytes (13.2GB) Total Clusters:3,468,023Unallocated:14,137,024,512 bytes (13.2GB) Settings: fill none
Results:	
Analysis:	Expected results not achieved

Assertion & Expected Result	Actual Result
AM-03 Execution environment is XE.	as expected
AO-12 A clone is created from an image file.	as expected
AO-13 Clone created using interface AI.	as expected
AO-14 An unaligned clone is created.	some sectors differ
AO-17 Excess sectors are unchanged.	as expected
AO-23 Logged information is correct.	as expected

5.2.41 DA-14-NTFS-ALT

Test Case DA-14-NTFS-ALT EnCase 6.5	
Case Summary:	DA-14 Create an unaligned clone from an image file.
Assertions:	AM-03 The tool executes in execution environment XE. AO-12 If requested, a clone is created from an image file. 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-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
Tester Name:	mrmw
Test Host:	Joe
Test Date:	Wed Mar 26 09:41:27 2008
Drives:	src(01-IDE) dst (02-IDE) other (06-FU)
Source Setup:	src hash (SHA1): < A48BB5665D6DC57C22DB68E2F723DA9AA8DF82B9 > src hash (MD5): < F458F673894753FA6A0EC8B8EC63848E > 78165360 total sectors (40020664320 bytes) Model (0BB-00JHC0) serial # (WD-WMAMC74171) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 020980827 0000/001/01 1023/254/63 0C Fat32X 2 X 020980890 057175335 1023/000/01 1023/254/63 0F extended 3 S 000000063 000032067 1023/001/01 1023/254/63 01 Fat12 4 x 000032130 002104515 1023/000/01 1023/254/63 05 extended 5 S 000000063 002104452 1023/001/01 1023/254/63 06 Fat16 6 x 002136645 004192965 1023/000/01 1023/254/63 05 extended 7 S 000000063 004192902 1023/001/01 1023/254/63 16 other 8 x 006329610 008401995 1023/000/01 1023/254/63 05 extended 9 S 000000063 008401932 1023/001/01 1023/254/63 0B Fat32 10 x 014731605 010490445 1023/000/01 1023/254/63 05 extended 11 S 000000063 010490382 1023/001/01 1023/254/63 83 Linux 12 x 025222050 004209030 1023/000/01 1023/254/63 05 extended 13 S 000000063 004208967 1023/001/01 1023/254/63 82 Linux swap 14 x 029431080 027744255 1023/000/01 1023/254/63 05 extended 15 S 000000063 027744192 1023/001/01 1023/254/63 07 NTFS 16 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 17 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 18 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 1 020980827 sectors 10742183424 bytes 3 000032067 sectors 16418304 bytes 5 002104452 sectors 1077479424 bytes 7 004192902 sectors 2146765824 bytes 9 008401932 sectors 4301789184 bytes 11 010490382 sectors 5371075584 bytes 13 004208967 sectors 2154991104 bytes 15 027744192 sectors 14205026304 bytes Excess destination partition sectors hash: CMD: /media/sdb/machash/machash.csh da-14-ntfs-alt Joe mrmw /dev/hda6 02-IDE -winsize 14205026304 -before -new_log SHA1 0 - 14205026303 = 4F608C89BA566EE1A9562C8C61ED5B9EBF64404F SHA1 14205026304 - 15734928383 = 03A7AAA16992F27C3BC79DD0353368B54DD2D0C9
Log Highlights:	Comparision of original to clone Partition Sectors compared: 27744192 Sectors match: 27744184 Sectors differ: 8 Bytes differ: 545 Diffs range: 27744184-27744191 Source (27744192) has 2988090 fewer sectors than destination (30732282) Zero fill: 0 Src Byte fill (01): 0 Dst Byte fill (02): 2988089

Test Case DA-14-NTFS-ALT EnCase 6.5	
	Other fill: 0 Other no fill: 1 Zero fill range: Src fill range: Dst fill range: 27744192-30732280 Other fill range: Other not filled range: 30732281 run start Wed Mar 26 10:55:11 2008 run finish Wed Mar 26 11:24:42 2008 elapsed time 0:29:31 Normal exit Start: 03/26/08 10:35:54AM Total Sectors: 30,732,281 Input Hash: 494A6ED8A827AD9B5403E0CC89379956 Output Hash: 494A6ED8A827AD9B5403E0CC89379956 Actual Date:09/26/07 03:22:35PM File Integrity:Completely Verified, 0 Errors Acquisition Hash:494a6ed8a827ad9b5403e0cc89379956 Verify Hash:494a6ed8a827ad9b5403e0cc89379956 EnCase Version:6.5 System Version:Windows 2003 Server Error Granularity:64 Read Errors:0 CRC Errors:0 Total Size:14,205,025,792 bytes (13.2GB) Total Sectors:27,744,191 Total Capacity:14,205,022,208 bytes (13.2GB) Total Clusters:3,468,023Unallocated:14,137,024,512 bytes (13.2GB) Settings: fill none
Results:	
Analysis:	Expected results achieved

Assertion & Expected Result	Actual Result
AM-03 Execution environment is XE.	as expected
AO-12 A clone is created from an image file.	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-23 Logged information is correct.	as expected

5.2.42 DA-14-PASSWORD

Test Case DA-14-PASSWORD EnCase 6.5	
Case Summary:	DA-14 Create an unaligned clone from an image file.
Assertions:	AM-03 The tool executes in execution environment XE. AO-12 If requested, a clone is created from an image file. 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-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
Tester Name:	mrmw
Test Host:	Freddy
Test Date:	Thu Oct 4 09:30:39 2007
Drives:	src(43) dst (09) other (06-FU)
Source Setup:	src hash (SHA256): < 2658F47603DE6B1D883B64823E9733F578658D08D06A4BB8C053C4F57BDC615E > src hash (SHA1): < 888E2E7F7AD237DC7A732281DD93F325065E5871 > src hash (MD5): < BC39C3F7EE7A50E77B9BA1E65A5AEEF7 > 78125000 total sectors (40000000000 bytes) Model (0BB-75JHC0) serial # (WD-WMAMC46588) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 020980827 0000/001/01 1023/254/63 0C Fat32X 2 X 020980890 057143205 1023/000/01 1023/254/63 0F extended 3 S 000000063 000032067 1023/001/01 1023/254/63 01 Fat12 4 x 000032130 002104515 1023/000/01 1023/254/63 05 extended 5 S 000000063 002104452 1023/001/01 1023/254/63 06 Fat16 6 x 002136645 004192965 1023/000/01 1023/254/63 05 extended 7 S 000000063 004192902 1023/001/01 1023/254/63 16 other 8 x 006329610 008401995 1023/000/01 1023/254/63 05 extended 9 S 000000063 008401932 1023/001/01 1023/254/63 0B Fat32 10 x 014731605 010490445 1023/000/01 1023/254/63 05 extended 11 S 000000063 010490382 1023/001/01 1023/254/63 83 Linux 12 x 025222050 004209030 1023/000/01 1023/254/63 05 extended 13 S 000000063 004208967 1023/001/01 1023/254/63 82 Linux swap 14 x 029431080 027712125 1023/000/01 1023/254/63 05 extended 15 S 000000063 027712062 1023/001/01 1023/254/63 07 NTFS 16 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 17 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 18 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 1 020980827 sectors 10742183424 bytes 3 000032067 sectors 16418304 bytes 5 002104452 sectors 1077479424 bytes 7 004192902 sectors 2146765824 bytes 9 008401932 sectors 4301789184 bytes 11 010490382 sectors 5371075584 bytes 13 004208967 sectors 2154991104 bytes 15 027712062 sectors 14188575744 bytes
Log Highlights:	Destination setup 100000001 sectors wiped with 9 Comparision of original to clone Drive Sectors compared: 78125000 Sectors match: 78125000 Sectors differ: 0 Bytes differ: 0 Diffs range Source (78125000) has 21875001 fewer sectors than destination (100000001) Zero fill: 0 Src Byte fill (43): 0 Dst Byte fill (09): 21875001

Test Case DA-14-PASSWORD EnCase 6.5

```
Other fill:                0
Other no fill:             0
Zero fill range:
Src fill range:
Dst fill range:  78125000-100000000
Other fill range:
Other not filled range:
0 source read errors, 0 destination read errors

Start: 10/04/07 03:20:33PM
Total Sectors: 100,000,001
Input Hash: BC39C3F7EE7A50E77B9BA1E65A5AEEF7
Settings: fill none
```

Results:

Assertion & Expected Result	Actual Result
AM-03 Execution environment is XE.	as expected
AO-12 A clone is created from an image file.	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-23 Logged information is correct.	as expected

Analysis: Expected results achieved

5.2.43 DA-14-SCSI

Test Case DA-14-SCSI EnCase 6.5	
Case Summary:	DA-14 Create an unaligned clone from an image file.
Assertions:	AM-03 The tool executes in execution environment XE. AO-12 If requested, a clone is created from an image file. 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-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
Tester Name:	mrmw
Test Host:	Joe
Test Date:	Wed Oct 10 11:21:05 2007
Drives:	src(2A) dst (2E) other (06-FU)
Source Setup:	src hash (SHA256): < AE8E839101661367D92803D5F5D408268635EFD8A05FEA633838CDC3919F5ABA > src hash (SHA1): < F5F9F2903DCAB895F36E270FB22A722E27918125 > src hash (MD5): < 91E0AC905F682ECF6DE4E9835089B519 > 17783249 total sectors (9105023488 bytes) Model (QM39100TD-SCA) serial # (PCB=20-116711-06 HDAQM39100TD-SCA) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 017751762 0000/001/01 1023/254/63 Boot 07 NTFS 2 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 3 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 4 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 1 017751762 sectors 9088902144 bytes
Log Highlights:	Destination setup 17783249 sectors wiped with 2E Comparision of original to clone Drive Sectors compared: 17783249 Sectors match: 17783249 Sectors differ: 0 Bytes differ: 0 Diffs range 0 source read errors, 0 destination read errors Start: 10/10/07 11:25:02AM Total Sectors: 17,783,249 Input Hash: 91E0AC905F682ECF6DE4E9835089B519 Actual Date:09/27/07 11:59:55AM File Integrity:Completely Verified, 0 Errors Acquisition Hash:91e0ac905f682ecf6de4e9835089b519 Verify Hash:91e0ac905f682ecf6de4e9835089b519 EnCase Version:6.5 System Version:Windows XP Error Granularity:64 Read Errors:0 CRC Errors:0 Total Size:9,105,023,488 bytes (8.5GB) Total Sectors:17,783,249 Actual Date:09/27/07 11:59:55AM File Integrity:Completely Verified, 0 Errors Acquisition Hash:91e0ac905f682ecf6de4e9835089b519 Verify Hash:91e0ac905f682ecf6de4e9835089b519 EnCase Version:6.5 System Version:Windows XP Error Granularity:64 Read Errors:0 CRC Errors:0

Test Case DA-14-SCSI EnCase 6.5	
	Total Size:9,105,023,488 bytes (8.5GB) Total Sectors:17,783,249 Settings: fill none
Results:	

Assertion & Expected Result	**Actual Result**
AM-03 Execution environment is XE.	as expected
AO-12 A clone is created from an image file.	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-23 Logged information is correct.	as expected

Analysis:	Expected results achieved

5.2.44 DA-14-THUMB

Test Case DA-14-THUMB EnCase 6.5	
Case Summary:	DA-14 Create an unaligned clone from an image file.
Assertions:	AM-03 The tool executes in execution environment XE. AO-12 If requested, a clone is created from an image file. 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-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
Tester Name:	brl
Test Host:	Freddy
Test Date:	Wed Mar 11 13:48:23 2009
Drives:	src(D5-THUMB) dst (LEXAR) other (none)
Source Setup:	src hash (SHA1): < D68520EF74A336E49DCCF83815B7B08FDC53E38A > src hash (MD5): < C843593624B2B3B878596D8760B19954 > 505856 total sectors (258998272 bytes) Model (usb2.0Flash Disk) serial # ()
Log Highlights:	Destination setup 987136 sectors wiped with 0 Comparision of original to clone Drive Sectors compared: 505856 Sectors match: 505853 Sectors differ: 3 Bytes differ: 6 Diffs range 1, 38, 1023 Source (505856) has 481280 fewer sectors than destination (987136) Zero fill: 0 Src Byte fill (D5): 0 Dst Byte fill (00): 0 Other fill: 0 Other no fill: 481280 Zero fill range: Src fill range: Dst fill range: Other fill range: Other not filled range: 505856-987135 0 source read errors, 0 destination read errors Start: 03/11/09 02:07:58PM Total Sectors: 987,136 Input Hash: C843593624B2B3B878596D8760B19954 Output Hash: C843593624B2B3B878596D8760B19954 Actual Date:03/11/09 11:41:04AM File Integrity:Completely Verified, 0 Errors Acquisition Hash:c843593624b2b3b878596d8760b19954 Verify Hash:c843593624b2b3b878596d8760b19954 EnCase Version:6.5 System Version:Windows 2000 Error Granularity:64 Read Errors:0 CRC Errors:0 Total Size:258,998,272 bytes (247MB) Total Sectors:505,856 Total Capacity:257,970,176 bytes (246MB) Total Clusters:125,962Unallocated:257,517,568 bytes (245.6MB) OEM Version:MSDOS5.0Serial Number:5C65-70D0 Settings: fill none
Results:	

Test Case DA-14-THUMB EnCase 6.5		
	Assertion & Expected Result	**Actual Result**
	AM-03 Execution environment is XE.	as expected
	AO-12 A clone is created from an image file.	as expected
	AO-13 Clone created using interface AI.	as expected
	AO-14 An unaligned clone is created.	some sectors differ
	AO-17 Excess sectors are unchanged.	as expected
	AO-23 Logged information is correct.	as expected
Analysis:	Expected results not achieved	

5.2.45 DA-14-UNCOMPRESSED

Test Case DA-14-UNCOMPRESSED EnCase 6.5	
Case Summary:	DA-14 Create an unaligned clone from an image file.
Assertions:	AM-03 The tool executes in execution environment XE. AO-12 If requested, a clone is created from an image file. 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-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
Tester Name:	mrmw
Test Host:	Freddy
Test Date:	Thu Oct 4 09:14:30 2007
Drives:	src(43) dst (24) other (01-FU)
Source Setup:	src hash (SHA256): < 2658F47603DE6B1D883B64823E9733F578658D08D06A4BB8C053C4F57BDC615E > src hash (SHA1): < 888E2E7F7AD237DC7A732281DD93F325065E5871 > src hash (MD5): < BC39C3F7EE7A50E77B9BA1E65A5AEEF7 > 78125000 total sectors (40000000000 bytes) Model (0BB-75JHC0) serial # (WD-WMAMC46588) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 020980827 0000/001/01 1023/254/63 0C Fat32X 2 X 020980890 057143205 1023/000/01 1023/254/63 0F extended 3 S 000000063 000032067 1023/001/01 1023/254/63 01 Fat12 4 x 000032130 002104515 1023/000/01 1023/254/63 05 extended 5 S 000000063 002104452 1023/001/01 1023/254/63 06 Fat16 6 x 002136645 004192965 1023/000/01 1023/254/63 05 extended 7 S 000000063 004192902 1023/001/01 1023/254/63 16 other 8 x 006329610 008401995 1023/000/01 1023/254/63 05 extended 9 S 000000063 008401932 1023/001/01 1023/254/63 0B Fat32 10 x 014731605 010490445 1023/000/01 1023/254/63 05 extended 11 S 000000063 010490382 1023/001/01 1023/254/63 83 Linux 12 x 025222050 004209030 1023/000/01 1023/254/63 05 extended 13 S 000000063 004208967 1023/001/01 1023/254/63 82 Linux swap 14 x 029431080 027712125 1023/000/01 1023/254/63 05 extended 15 S 000000063 027712062 1023/001/01 1023/254/63 07 NTFS 16 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 17 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 18 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 1 020980827 sectors 10742183424 bytes 3 000032067 sectors 16418304 bytes 5 002104452 sectors 1077479424 bytes 7 004192902 sectors 2146765824 bytes 9 008401932 sectors 4301789184 bytes 11 010490382 sectors 5371075584 bytes 13 004208967 sectors 2154991104 bytes 15 027712062 sectors 14188575744 bytes
Log Highlights:	Destination setup 143374741 sectors wiped with 24 Comparision of original to clone Drive Sectors compared: 78125000 Sectors match: 78125000 Sectors differ: 0 Bytes differ: 0 Diffs range Source (78125000) has 65249741 fewer sectors than destination (143374741) Zero fill: 0 Src Byte fill (43): 0 Dst Byte fill (24): 65249741

<table>
<tr><td colspan="2">Test Case DA-14-UNCOMPRESSED EnCase 6.5</td></tr>
<tr><td></td><td>Other fill: 0
Other no fill: 0
Zero fill range:
Src fill range:
Dst fill range: 78125000-143374740
Other fill range:
Other not filled range:
0 source read errors, 0 destination read errors

Start: 10/04/07 08:56:50AM
Total Sectors: 78,165,360
Input Hash: BC39C3F7EE7A50E77B9BA1E65A5AEEF7
Settings: fill none</td></tr>
<tr><td>Results:</td><td>
<table>
<tr><th>Assertion & Expected Result</th><th>Actual Result</th></tr>
<tr><td>AM-03 Execution environment is XE.</td><td>as expected</td></tr>
<tr><td>AO-12 A clone is created from an image file.</td><td>as expected</td></tr>
<tr><td>AO-13 Clone created using interface AI.</td><td>as expected</td></tr>
<tr><td>AO-14 An unaligned clone is created.</td><td>as expected</td></tr>
<tr><td>AO-17 Excess sectors are unchanged.</td><td>as expected</td></tr>
<tr><td>AO-23 Logged information is correct.</td><td>as expected</td></tr>
</table>
</td></tr>
<tr><td>Analysis:</td><td>Expected results achieved</td></tr>
</table>

5.2.46 DA-14-USB

Test Case DA-14-USB EnCase 6.5	
Case Summary:	DA-14 Create an unaligned clone from an image file.
Assertions:	AM-03 The tool executes in execution environment XE. AO-12 If requested, a clone is created from an image file. 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-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
Tester Name:	mrmw
Test Host:	Freddy
Test Date:	Wed Oct 3 15:12:42 2007
Drives:	src(01-IDE) dst (03-IDE) other (01-FU)
Source Setup:	src hash (SHA1): < A48BB5665D6DC57C22DB68E2F723DA9AA8DF82B9 > src hash (MD5): < F458F673894753FA6A0EC8B8EC63848E > 78165360 total sectors (40020664320 bytes) Model (0BB-00JHC0) serial # (WD-WMAMC74171) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 020980827 0000/001/01 1023/254/63 0C Fat32X 2 X 020980890 057175335 1023/000/01 1023/254/63 0F extended 3 S 000000063 000032067 1023/001/01 1023/254/63 01 Fat12 4 x 000032130 002104515 1023/000/01 1023/254/63 05 extended 5 S 000000063 002104452 1023/001/01 1023/254/63 06 Fat16 6 x 002136645 004192965 1023/000/01 1023/254/63 05 extended 7 S 000000063 004192902 1023/001/01 1023/254/63 16 other 8 x 006329610 008401995 1023/000/01 1023/254/63 05 extended 9 S 000000063 008401932 1023/001/01 1023/254/63 0B Fat32 10 x 014731605 010490445 1023/000/01 1023/254/63 05 extended 11 S 000000063 010490382 1023/001/01 1023/254/63 83 Linux 12 x 025222050 004209030 1023/000/01 1023/254/63 05 extended 13 S 000000063 004208967 1023/001/01 1023/254/63 82 Linux swap 14 x 029431080 027744255 1023/000/01 1023/254/63 05 extended 15 S 000000063 027744192 1023/001/01 1023/254/63 07 NTFS 16 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 17 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 18 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 1 020980827 sectors 10742183424 bytes 3 000032067 sectors 16418304 bytes 5 002104452 sectors 1077479424 bytes 7 004192902 sectors 2146765824 bytes 9 008401932 sectors 4301789184 bytes 11 010490382 sectors 5371075584 bytes 13 004208967 sectors 2154991104 bytes 15 027744192 sectors 14205026304 bytes
Log Highlights:	Destination setup 78165360 sectors wiped with 3 Comparision of original to clone Drive Sectors compared: 78165360 Sectors match: 78165360 Sectors differ: 0 Bytes differ: 0 Diffs range 0 source read errors, 0 destination read errors Start: 10/03/07 02:50:56PM Total Sectors: 78,165,360 Input Hash: F458F673894753FA6A0EC8B8EC63848E Actual Date:09/27/07 10:43:40AM File Integrity:Completely Verified, 0 Errors

<table>
<tr><td colspan="2">Test Case DA-14-USB EnCase 6.5</td></tr>
<tr><td></td><td>Acquisition Hash:f458f673894753fa6a0ec8b8ec63848e
Verify Hash:f458f673894753fa6a0ec8b8ec63848e
EnCase Version:6.5
System Version:Windows 2000
Error Granularity:64
Read Errors:0
CRC Errors:0
Total Size:40,020,664,320 bytes (37.3GB)
Total Sectors:78,165,360
Settings: fill none</td></tr>
<tr><td>Results:</td><td>
<table>
<tr><th>Assertion & Expected Result</th><th>Actual Result</th></tr>
<tr><td>AM-03 Execution environment is XE.</td><td>as expected</td></tr>
<tr><td>AO-12 A clone is created from an image file.</td><td>as expected</td></tr>
<tr><td>AO-13 Clone created using interface AI.</td><td>as expected</td></tr>
<tr><td>AO-14 An unaligned clone is created.</td><td>as expected</td></tr>
<tr><td>AO-17 Excess sectors are unchanged.</td><td>as expected</td></tr>
<tr><td>AO-23 Logged information is correct.</td><td>as expected</td></tr>
</table>
</td></tr>
<tr><td>Analysis:</td><td>Expected results achieved</td></tr>
</table>

5.2.47 DA-17

Test Case DA-17 EnCase 6.5	
Case Summary:	DA-17 Create a truncated clone from an image file.
Assertions:	AM-03 The tool executes in execution environment XE. AO-12 If requested, a clone is created from an image file. AO-13 A clone is created using access interface DST-AI to write to the clone device. AO-19 If there is insufficient space to create a complete clone, a truncated clone is created using all available sectors of the clone device. AO-20 If a truncated clone is created, the tool notifies the user. AO-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
Tester Name:	mrmw
Test Host:	Joe
Test Date:	Wed Oct 10 12:34:44 2007
Drives:	src(4C) dst (09-IDE) other (06-FU)
Source Setup:	src hash (SHA1): < 8FF620D2BEDCCAFE8412EDAAD56C8554F872EFBF > src hash (MD5): < D10F763B56D4CEBA2D1311C61F9FB382 > 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) 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 000000000 0000/000/00 0000/000/00 00 empty entry 3 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 4 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 1 390700737 sectors 200038777344 bytes
Log Highlights:	Destination setup 78165360 sectors wiped with 9 Comparision of original to clone Drive Sectors compared: 78165360 Sectors match: 78165360 Sectors differ: 0 Bytes differ: 0 Diffs range Source (390721968) has 312556608 more sectors than destination (78165360) 0 source read errors, 0 destination read errors Start: 10/10/07 12:41:46PM Total Sectors: 78,165,360 Input Hash: Actual Date:09/27/07 12:50:12PM File Integrity:Completely Verified, 0 Errors Acquisition Hash:d10f763b56d4ceba2d1311c61f9fb382 Verify Hash:d10f763b56d4ceba2d1311c61f9fb382 EnCase Version:6.5 System Version:Windows XP Error Granularity:64 Read Errors:0 CRC Errors:0 Total Size:200,049,647,616 bytes (186.3GB) Total Sectors:390,721,968
Results:	**Assertion & Expected Result** / **Actual Result** AM-03 Execution environment is XE. / as expected AO-12 A clone is created from an image file. / as expected AO-13 Clone created using interface AI. / as expected AO-19 Truncated clone is created. / as expected AO-20 User notified that clone is truncated. / as expected AO-23 Logged information is correct. / as expected

Test Case DA-17 EnCase 6.5	
Analysis:	Expected results achieved

5.2.48 DA-22-ATA28

Test Case DA-22-ATA28 EnCase 6.5	
Case Summary:	DA-22 Create an unaligned clone from an image file, filling excess sectors.
Assertions:	AM-03 The tool executes in execution environment XE. AO-12 If requested, a clone is created from an image file. 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-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
Tester Name:	mw
Test Host:	Freddy
Test Date:	Wed Aug 1 10:00:15 2007
Drives:	src(43) dst (29) other (01-FU)
Source Setup:	src hash (SHA256): < 2658F47603DE6B1D883B64823E9733F578658D08D06A4BB8C053C4F57BDC615E > src hash (SHA1): < 888E2E7F7AD237DC7A732281DD93F325065E5871 > src hash (MD5): < BC39C3F7EE7A50E77B9BA1E65A5AEEF7 > 78125000 total sectors (40000000000 bytes) Model (0BB-75JHC0) serial # (WD-WMAMC46588) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 020980827 0000/001/01 1023/254/63 0C Fat32X 2 X 020980890 057143205 1023/000/01 1023/254/63 0F extended 3 S 000000063 000032067 1023/001/01 1023/254/63 01 Fat12 4 x 000032130 002104515 1023/000/01 1023/254/63 05 extended 5 S 000000063 002104452 1023/001/01 1023/254/63 06 Fat16 6 x 002136645 004192965 1023/000/01 1023/254/63 05 extended 7 S 000000063 004192902 1023/001/01 1023/254/63 16 other 8 x 006329610 008401995 1023/000/01 1023/254/63 05 extended 9 S 000000063 008401932 1023/001/01 1023/254/63 0B Fat32 10 x 014731605 010490445 1023/000/01 1023/254/63 05 extended 11 S 000000063 010490382 1023/001/01 1023/254/63 83 Linux 12 x 025222050 004209030 1023/000/01 1023/254/63 05 extended 13 S 000000063 004208967 1023/001/01 1023/254/63 82 Linux swap 14 x 029431080 027712125 1023/000/01 1023/254/63 05 extended 15 S 000000063 027712062 1023/001/01 1023/254/63 07 NTFS 16 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 17 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 18 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 1 020980827 sectors 10742183424 bytes 3 000032067 sectors 16418304 bytes 5 002104452 sectors 1077479424 bytes 7 004192902 sectors 2146765824 bytes 9 008401932 sectors 4301789184 bytes 11 010490382 sectors 5371075584 bytes 13 004208967 sectors 2154991104 bytes 15 027712062 sectors 14188575744 bytes
Log Highlights:	Destination setup 195813072 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 117688072 fewer sectors than destination (195813072) Zero fill: 117688072 Src Byte fill (43): 0 Dst Byte fill (22): 0 Other fill: 0

<table>
<tr><td colspan="2">Test Case DA-22-ATA28 EnCase 6.5</td></tr>
<tr><td></td><td>Other no fill: 0
Zero fill range: 78125000-195813071
Src fill range:
Dst fill range:
Other fill range:
Other not filled range:
0 source read errors, 0 destination read errors

Actual Date:07/10/07 09:56:55AM
Acquisition Hash:bc39c3f7ee7a50e77b9ba1e65a5aeef7
EnCase Version:6.5
System Version:Windows 2000
Error Granularity:64
Read Errors:0
CRC Errors:0
Total Size:40,000,000,000 bytes (37.3GB)
Total Sectors:78,125,000
Settings: fill 00</td></tr>
<tr><td>Results:</td><td><table>
<tr><th>Assertion & Expected Result</th><th>Actual Result</th></tr>
<tr><td>AM-03 Execution environment is XE.</td><td>as expected</td></tr>
<tr><td>AO-12 A clone is created from an image file.</td><td>as expected</td></tr>
<tr><td>AO-13 Clone created using interface AI.</td><td>as expected</td></tr>
<tr><td>AO-14 An unaligned clone is created.</td><td>as expected</td></tr>
<tr><td>AO-18 Excess sectors are filled.</td><td>as expected</td></tr>
<tr><td>AO-23 Logged information is correct.</td><td>as expected</td></tr>
</table></td></tr>
<tr><td>Analysis:</td><td>Expected results achieved</td></tr>
</table>

5.2.49 DA-22-FAT16

Test Case DA-22-FAT16 EnCase 6.5	
Case Summary:	DA-22 Create an unaligned clone from an image file, filling excess sectors.
Assertions:	AM-03 The tool executes in execution environment XE. AO-12 If requested, a clone is created from an image file. 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-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
Tester Name:	mrmw
Test Host:	Freddy
Test Date:	Tue Feb 12 09:34:07 2008
Drives:	src(43) dst (34-SATA) other (01-FU)
Source Setup:	src hash (SHA256): < 2658F47603DE6B1D883B64823E9733F578658D08D06A4BB8C053C4F57BDC615E > src hash (SHA1): < 888E2E7F7AD237DC7A732281DD93F325065E5871 > src hash (MD5): < BC39C3F7EE7A50E77B9BA1E65A5AEEF7 > 78125000 total sectors (40000000000 bytes) Model (0BB-75JHC0) serial # (WD-WMAMC46588) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 020980827 0000/001/01 1023/254/63 0C Fat32X 2 X 020980890 057143205 1023/000/01 1023/254/63 0F extended 3 S 000000063 000032067 1023/001/01 1023/254/63 01 Fat12 4 x 000032130 002104515 1023/000/01 1023/254/63 05 extended 5 S 000000063 002104452 1023/001/01 1023/254/63 06 Fat16 6 x 002136645 004192965 1023/000/01 1023/254/63 05 extended 7 S 000000063 004192902 1023/001/01 1023/254/63 16 other 8 x 006329610 008401995 1023/000/01 1023/254/63 05 extended 9 S 000000063 008401932 1023/001/01 1023/254/63 0B Fat32 10 x 014731605 010490445 1023/000/01 1023/254/63 05 extended 11 S 000000063 010490382 1023/001/01 1023/254/63 83 Linux 12 x 025222050 004209030 1023/000/01 1023/254/63 05 extended 13 S 000000063 004208967 1023/001/01 1023/254/63 82 Linux swap 14 x 029431080 027712125 1023/000/01 1023/254/63 05 extended 15 S 000000063 027712062 1023/001/01 1023/254/63 07 NTFS 16 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 17 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 18 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 1 020980827 sectors 10742183424 bytes 3 000032067 sectors 16418304 bytes 5 002104452 sectors 1077479424 bytes 7 004192902 sectors 2146765824 bytes 9 008401932 sectors 4301789184 bytes 11 010490382 sectors 5371075584 bytes 13 004208967 sectors 2154991104 bytes 15 027712062 sectors 14188575744 bytes
Log Highlights:	Comparision of original to clone Partition Sectors compared: 2104452 Sectors match: 2104452 Sectors differ: 0 Bytes differ: 0 Diffs range: Source (2104452) has 208845 fewer sectors than destination (2313297) Zero fill: 0 Src Byte fill (43): 0 Dst Byte fill (01): 0 Other fill: 208845 Other no fill: 0 Zero fill range: Src fill range:

Test Case DA-22-FAT16 EnCase 6.5	
	Dst fill range: Other fill range: 2104452-2313296 Other not filled range: run start Tue Feb 12 12:01:08 2008 run finish Tue Feb 12 12:03:27 2008 elapsed time 0:2:19 Normal exit Start: 02/12/08 10:32:25AM Total Sectors: 2,313,297 Input Hash: 37E81FFB31C3CB38AA48B2237500908E Output Hash: 37E81FFB31C3CB38AA48B2237500908E Actual Date:02/12/08 09:44:30AM File Integrity:Completely Verified, 0 Errors Acquisition Hash:37e81ffb31c3cb38aa48b2237500908e Verify Hash:37e81ffb31c3cb38aa48b2237500908e EnCase Version:6.5 System Version:Windows XP Error Granularity:64 Read Errors:0 CRC Errors:0 Total Size:1,077,479,424 bytes (1GB) Total Sectors:2,104,452 Total Capacity:1,077,313,536 bytes (1GB) Total Clusters:32,877Unallocated:1,076,953,088 bytes (1GB) OEM Version:MSWIN4.0Serial Number:CCCF-3DAD Settings: fill none
Results:	**Assertion & Expected Result** / **Actual Result** AM-03 Execution environment is XE. / as expected AO-12 A clone is created from an image file. / 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 AO-23 Logged information is correct. / as expected
Analysis:	Expected results achieved

5.2.50 DA-24

Test Case DA-24 EnCase 6.5	
Case Summary:	DA-24 Verify a valid image.
Assertions:	AM-03 The tool executes in execution environment XE. 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-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
Tester Name:	mrmw
Test Host:	Joe
Test Date:	Wed Oct 10 11:41:36 2007
Drives:	src(43) dst (none) other (06-FU)
Source Setup:	src hash (SHA256): < 2658F47603DE6B1D883B64823E9733F578658D08D06A4BB8C053C4F57BDC615E > src hash (SHA1): < 888E2E7F7AD237DC7A732281DD93F325065E5871 > src hash (MD5): < BC39C3F7EE7A50E77B9BA1E65A5AEEF7 > 78125000 total sectors (40000000000 bytes) Model (0BB-75JHC0) serial # (WD-WMAMC46588) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 020980827 0000/001/01 1023/254/63 0C Fat32X 2 X 020980890 057143205 1023/000/01 1023/254/63 0F extended 3 S 000000063 000032067 1023/001/01 1023/254/63 01 Fat12 4 x 000032130 002104515 1023/000/01 1023/254/63 05 extended 5 S 000000063 002104452 1023/001/01 1023/254/63 06 Fat16 6 x 002136645 004192965 1023/000/01 1023/254/63 05 extended 7 S 000000063 004192902 1023/001/01 1023/254/63 16 other 8 x 006329610 008401995 1023/000/01 1023/254/63 05 extended 9 S 000000063 008401932 1023/001/01 1023/254/63 0B Fat32 10 x 014731605 010490445 1023/000/01 1023/254/63 05 extended 11 S 000000063 010490382 1023/001/01 1023/254/63 83 Linux 12 x 025222050 004209030 1023/000/01 1023/254/63 05 extended 13 S 000000063 004208967 1023/001/01 1023/254/63 82 Linux swap 14 x 029431080 027712125 1023/000/01 1023/254/63 05 extended 15 S 000000063 027712062 1023/001/01 1023/254/63 07 NTFS 16 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 17 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 18 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 1 020980827 sectors 10742183424 bytes 3 000032067 sectors 16418304 bytes 5 002104452 sectors 1077479424 bytes 7 004192902 sectors 2146765824 bytes 9 008401932 sectors 4301789184 bytes 11 010490382 sectors 5371075584 bytes 13 004208967 sectors 2154991104 bytes 15 027712062 sectors 14188575744 bytes
Log Highlights:	Actual Date:10/02/07 02:10:36PM File Integrity:Completely Verified, 0 Errors Acquisition Hash:bc39c3f7ee7a50e77b9ba1e65a5aeef7 Verify Hash:bc39c3f7ee7a50e77b9ba1e65a5aeef7 EnCase Version:6.5 System Version:Windows 2000 Error Granularity:64 Read Errors:0 CRC Errors:0 Total Size:40,000,000,000 bytes (37.3GB) Total Sectors:78,125,000 Settings: fill none
Results:	**Assertion & Expected Result** / **Actual Result** AM-03 Execution environment is XE. / as expected AO-06 Tool verifies image file unchanged. / as expected AO-23 Logged information is correct. / as expected

Test Case DA-24 EnCase 6.5	
Analysis:	Expected results achieved

5.2.51 DA-25

Test Case DA-25 EnCase 6.5	
Case Summary:	DA-25 Detect a corrupted image.
Assertions:	AM-03 The tool executes in execution environment XE. 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-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
Tester Name:	mrmw
Test Host:	Frank
Test Date:	Wed Oct 10 09:58:08 2007
Drives:	src(43) dst (none) other (06-FU)
Source Setup:	src hash (SHA256): < 2658F47603DE6B1D883B64823E9733F578658D08D06A4BB8C053C4F57BDC615E > src hash (SHA1): < 888E2E7F7AD237DC7A732281DD93F325065E5871 > src hash (MD5): < BC39C3F7EE7A50E77B9BA1E65A5AEEF7 > 78125000 total sectors (40000000000 bytes) Model (0BB-75JHC0) serial # (WD-WMAMC46588) N Start LBA Length Start C/H/S End C/H/S boot Partition type 1 P 000000063 020980827 0000/001/01 1023/254/63 0C Fat32X 2 X 020980890 057143205 1023/000/01 1023/254/63 0F extended 3 S 000000063 000032067 1023/001/01 1023/254/63 01 Fat12 4 x 000032130 002104515 1023/000/01 1023/254/63 05 extended 5 S 000000063 002104452 1023/001/01 1023/254/63 06 Fat16 6 x 002136645 004192965 1023/000/01 1023/254/63 05 extended 7 S 000000063 004192902 1023/001/01 1023/254/63 16 other 8 x 006329610 008401995 1023/000/01 1023/254/63 05 extended 9 S 000000063 008401932 1023/001/01 1023/254/63 0B Fat32 10 x 014731605 010490445 1023/000/01 1023/254/63 05 extended 11 S 000000063 010490382 1023/001/01 1023/254/63 83 Linux 12 x 025222050 004209030 1023/000/01 1023/254/63 05 extended 13 S 000000063 004208967 1023/001/01 1023/254/63 82 Linux swap 14 x 029431080 027712125 1023/000/01 1023/254/63 05 extended 15 S 000000063 027712062 1023/001/01 1023/254/63 07 NTFS 16 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 17 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 18 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry 1 020980827 sectors 10742183424 bytes 3 000032067 sectors 16418304 bytes 5 002104452 sectors 1077479424 bytes 7 004192902 sectors 2146765824 bytes 9 008401932 sectors 4301789184 bytes 11 010490382 sectors 5371075584 bytes 13 004208967 sectors 2154991104 bytes 15 027712062 sectors 14188575744 bytes
Log Highlights:	Image file corrupted for test run: Change byte 11370496 of file da-10-uncompressed.E01 from 0x36 to 0x94 Actual Date:10/02/07 02:10:36PM File Integrity:Completely Verified, 1 Errors Acquisition Hash:bc39c3f7ee7a50e77b9ba1e65a5aeef7 Verify Hash:78c26822f3bd5a9bd0de4bea8813c88a EnCase Version:6.5 System Version:Windows 2000 Error Granularity:64 Read Errors:0 CRC Errors:1 Total Size:40,000,000,000 bytes (37.3GB) Total Sectors:78,125,000 Settings: fill none

Test Case DA-25 EnCase 6.5	
Results:	

Assertion & Expected Result	**Actual Result**
AM-03 Execution environment is XE.	as expected
AO-07 User notified if image file has changed.	as expected
AO-08 User notified of changed locations.	as expected
AO-23 Logged information is correct.	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.

Program Areas

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.

In addition to sponsoring research and development and technology assistance, NIJ evaluates programs, policies, and technologies. NIJ communicates its research and evaluation findings through conferences and print and electronic media.

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