Test Results for Digital Data Acquisition Tool: IXimager (Version 2.0, Feb-01 2006)
Test Results for Digital Data Acquisition Tool: IXimager (Version 2.0, Feb-01 2006)
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This report was prepared for the National Institute of Justice, U.S. Department of Justice, by the Office of Law Enforcement Standards of the National Institute of Standards and Technology under Interagency Agreement 2003-IJ-R-029.

The National Institute of Justice is a component of the Office of Justice Programs, which also includes the Bureau of Justice Assistance, the Bureau of Justice Statistics, the Office of Juvenile Justice and Delinquency Prevention, and the Office for Victims of Crime.
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April 2007
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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, and the National Institute of Standards and Technology’s (NIST’s) Office of Law Enforcement Standards (OLES) and Information Technology Laboratory (ITL). CFTT is supported by other organizations, including the Federal Bureau of Investigation, the U.S. Department of Defense Cyber Crime Center, U.S. Internal Revenue Service Criminal Investigation Division Electronic Crimes Program, and the U.S. Department of Homeland Security’s Bureau of Immigration and Customs Enforcement and U.S. Secret Service. The objective of the CFTT program is to provide measurable assurance to practitioners, researchers, and other applicable users that the tools used in computer forensics investigations provide accurate results. Accomplishing this requires the development of specifications and test methods for computer forensics tools and subsequent testing of specific tools against those specifications.

Test results provide the information necessary for developers to improve tools, users to make informed choices, and the legal community and others to understand the tools’ capabilities. This 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.


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.
1 Results Summary
The tested tool acquired all visible and hidden sectors completely and accurately from the test media. In the case of a hard drive with 22 defective sectors, the sectors of the image corresponding to the defective sectors were replaced with forensically benign content.

2 Test Case Selection
Not all test cases or test assertions are appropriate for all tools. Each test case is assigned to a selection criterion based on optional tool features needed for the test case. If a given tool implements a given feature listed below then test cases assigned to the associated criterion are executed. In addition, the availability of a test support tool to generate device I/O errors is required for execution of some test cases.

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 for the IXimager. The assertion AO–24 is only checked if the tool is executed in a run time environment that does not modify attached storage devices, such as MS–DOS. In normal operation an imaging tool is used in conjunction with a write block device to protect the source drive, however a blocker was not used during the tests so that assertion AO–24 could be checked.

Test cases DA–06, DA–07, DA–08, and DA–12 were selected because they are basic to all tools.

The other test cases are either selected or not selected based on tool features and capabilities.

The tool creates image files in more than one format: include DA–10.

The tool converts image files from one format to another: include DA–26.

The tool can create a clone during acquisition: include DA–01, DA–02, and DA–04.

The tool implements destination device switching: include DA–13.

A device I/O error generator is available (but only for source drives): include DA–09; omit DA–05, DA–11, and DA–18.


The tool can create a clone from an image file: include DA–14 and DA–17, but omit DA–22 (no fill feature).

The tool does not create a clone from a subset of an image file: omit DA–16.

The tool can detect a corrupted (or changed) image file: include DA–24 and DA–25.

Some test cases have variant forms to accommodate parameters within test assertions AM–01, AM–02, AM–03, AM–05, and AO–13. For an acquisition the tool must execute in an execution environment, XE. In addition, a digital source, DS, defines the type of object acquired. The access interface for the source, SRC–AI, must be specified. Additional test parameters include the file system type, FS, for creation of the image file and the access interface used to write to a clone, DST–AI. Variations were also created for AO–02 image file format and AO–09, image format conversion.

The IXimager only executes in a custom environment: Linux version 2.4.32-erik.

The following source interfaces (SRC–AI) were tested: ATA28, ATA48, SATA28, SATA48, SCSI, USB, and FireWire.

The following digital sources were tested: partitions (FAT12, FAT16, FAT32, FAT32X, EXT2, hidden FAT, NTFS, and Linux Swap), RAID–1, RAID–5, flash card, thumb drive, floppy, and ZIP.

The image files were created, FS, on FAT32X partitions.

The following interfaces (DST–AI) were used for clone creation: ATA28, ATA48, SATA28, SATA48, SCSI, USB, and FireWire.

Tested image formats include the ILook default (compressed), ILook encrypted, and raw.

Format conversion variations include: default to unformatted (as would be produced by the Unix command **dd**), default to ILook encrypted, default to ILook raw, ILook encrypted to default, and ILook raw to default.
3 Results by Test Assertion

Table 1 summarizes the test results by assertion. The column labeled Assertion gives the text of each assertion. The column labeled Tests gives the number of test cases that use the given assertion. The column labeled Anomalies gives the number of observed anomalies for the given assertion. Note that no anomalies were observed for any assertion.

Table 1 Results Summary by Assertion

<table>
<thead>
<tr>
<th>Assertion</th>
<th>Tests</th>
<th>Anomalies</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM-01 The tool uses access interface SRC-AI to access the digital source.</td>
<td>46</td>
<td>0</td>
</tr>
<tr>
<td>AM-02 The tool acquires digital source, DS.</td>
<td>46</td>
<td>0</td>
</tr>
<tr>
<td>AM-03 The tool executes in execution environment, XE.</td>
<td>76</td>
<td>0</td>
</tr>
<tr>
<td>AM-04 If clone creation is specified, the tool creates a clone of the digital source.</td>
<td>19</td>
<td>0</td>
</tr>
<tr>
<td>AM-05 If image file creation is specified, the tool creates an image file on file system type, FS.</td>
<td>27</td>
<td>0</td>
</tr>
<tr>
<td>AM-06 All visible sectors are acquired from the digital source.</td>
<td>45</td>
<td>0</td>
</tr>
<tr>
<td>AM-07 All hidden sectors are acquired from the digital source.</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>AM-08 All sectors acquired from the digital source are acquired accurately.</td>
<td>45</td>
<td>0</td>
</tr>
<tr>
<td>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.</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>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.</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>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.</td>
<td>26</td>
<td>0</td>
</tr>
<tr>
<td>AO-02 If an image file format is specified, the tool creates an image file in the specified format.</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>AO-03 If there is an error while writing the image file, the tool notifies the user.</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>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.</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>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.</td>
<td>26</td>
<td>0</td>
</tr>
<tr>
<td>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.</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>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.</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>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</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Assertion</td>
<td>Tests</td>
<td>Anomalies</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------</td>
<td>-----------</td>
</tr>
<tr>
<td>the affected locations.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>AO–09</strong> 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.</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td><strong>AO–10</strong> 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.</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td><strong>AO–11</strong> If requested, a clone is created during an acquisition of a digital source.</td>
<td>19</td>
<td>0</td>
</tr>
<tr>
<td><strong>AO–12</strong> If requested, a clone is created from an image file.</td>
<td>23</td>
<td>0</td>
</tr>
<tr>
<td><strong>AO–13</strong> A clone is created using access interface DST-AI to write to the clone device.</td>
<td>42</td>
<td>0</td>
</tr>
<tr>
<td><strong>AO–14</strong> 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.</td>
<td>41</td>
<td>0</td>
</tr>
<tr>
<td><strong>AO–15</strong> 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.</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>AO–16</strong> If a subset of an image or acquisition is specified, all the subset is cloned.</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>AO–17</strong> If requested, any excess sectors on a clone destination device are not modified.</td>
<td>40</td>
<td>0</td>
</tr>
<tr>
<td><strong>AO–18</strong> If requested, a benign fill is written to excess sectors of a clone.</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>AO–19</strong> If there is insufficient space to create a complete clone, a truncated clone is created using all available sectors of the clone device.</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td><strong>AO–20</strong> If a truncated clone is created, the tool notifies the user.</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td><strong>AO–21</strong> If there is a write error during clone creation, the tool notifies the user.</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>AO–22</strong> If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source.</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>AO–23</strong> If the tool logs any log significant information, the information is accurately recorded in the log file.</td>
<td>76</td>
<td>0</td>
</tr>
<tr>
<td><strong>AO–24</strong> If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process.</td>
<td>46</td>
<td>0</td>
</tr>
</tbody>
</table>
4 Testing Environment
The tests were run in the NIST CFTT lab. This section describes the test computers available for testing.

4.1 Test Computers
Eight test computers were used.

Freddy, Frank, 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
SONY DVD RW DRU–530A, ATAPI CD/DVD-ROM drive
1.44MB 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

JohnSteed has the following configuration:

FIC IC–VL67 (865G; S478; 800MHz) Intel® Desktop Motherboard
Phoenix-Award BIOS version v6.00PG
Intel® Pentium® 4 CPU
Plextor DVDR PX–716A, ATAPI CD/DVD-ROM drive
WDC WD800JB–00JJC0, 80 GB ATA disk drive
1.44MB floppy drive
Three IEEE 1394 ports
Four USB ports

Nick has the following configuration:

Dell Optiplex GX260 Series
Intel® Pentium® 4 CPU 2GHz
Phoenix ROM BIOS PLUS version 1.10 revision A06
2048 MB DDR SDRAM
80 GB IC35L090AUV207–0 Hitachi IDE hard drive
NEC DVD+RW ND–1100A Drive
Lite-On LTN486S 48x CD-ROM drive
ZIP 250 Drive
Floppy Drive
6 USB ports
Firestorm 6D906 IEEE 1394a PCI Adapter

Paladin has the following configuration:

Intel® D845WNL Motherboard
BIOS: HV84510A.86A.0022.P05
Intel® Pentium® IV 2.0Ghz
512672k Memory
Adaptec 29160 SCSI Adapter card
Tekram DC–390U3W SCSI Adapter card
Plextor CR–RW PX–W124TS Rev: 1.06
LG 52X CDROM
floppy drive
Three slots for removable IDE hard disk drives
Two slots for removable SCSI hard disk drive

SamSpade has the following configuration:

Intel® D865PERL Motherboard
Intel® Pentium® 4 CPU 2.4GHz
BE7X 1.08.00.048 BIOS
FE7X 1.05.00.063 Firmware
2048 MB RAM
ABIT R9200SE–T APG graphics adapter
3ware ATA RAID Controller: Escalade 7506–4LP
Lite-On DVDRW SHOW–1234 Drive
Floppy Drive
4 USB ports
4 slots for IDE RAID 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.

5 Test Results

The main item of interest for interpreting the test results is determining the conformance of the device with the test assertions. Conformance with each assertion tested by a given test case is evaluated by examining 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.
5.2 Test Details

5.2.1 DA-01-ATA28

Test Case DA-01-ATA28 ILook IXimager Version 2.0, Feb 01 2006

Description: DA-01 Acquire a physical device using access interface AI to an unaligned clone.

Assertions:
- AM-01 The tool uses access interface SRC-AI to access the digital source.
- AM-02 The tool acquires digital source DS.
- AM-03 The tool executes in execution environment XE.
- AM-04 If clone creation is specified, the tool creates a clone of the digital source.
- AM-05 All visible sectors are acquired from the digital source.
- AM-06 All sectors acquired from the digital source are acquired accurately.
- AO-11 If requested, a clone is created during an acquisition of a digital source.
- AO-13 A clone is created using access interface DST-AI to write to the clone device.
- AO-14 If an unaligned clone is created, each sector written to the clone is accurately written to the same disk address on the clone that the sector occupied on the digital source.
- AO-17 If requested, any excess sectors on a clone destination device are not modified.
- AO-22 If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source.
- AO-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
- AO-24 If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process.

Tester Name: brl
Test Host: Max
Test Date: Tue Mar 21 16:58:41 2006
Drives: src(41) dst (42) other (none)
Source: src hash: < 15CAA1A307271160D8372668BF8A03FC45A51CC9 >
Setup: 78125000 total sectors (40000000000 bytes)
Test Case DA-01-ATA28 ILook IXimager Version 2.0, Feb 01 2006

65534/015/63 (max cyl/hd values)
65535/016/63 (number of cyl/hd)
IDE disk: Model (WDC WD400BB-75JHC0) serial # (WD-WMAMC46S8355)
N Start LBA Length Start C/H/S End C/H/S boot Partition type
1 P 000000006 078107967 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 078107967 sectors 39991279104 bytes

Log Highlights: Comparision of original to clone
Sectors compared: 78125000
Sectors match: 78125000
Sectors differ: 0
Bytes differ: 0
Diffs range
0 source read errors, 0 destination read errors

IXImager Log file
hda: 78125000 sectors (40000 MB) w/2048KiB Cache, CHS=65535/16/63,
UDMA(100)
hdb: 78125000 sectors (40000 MB) w/2048KiB Cache, CHS=65535/16/63,
UDMA(100)
Initializing...
Opened input device '/dev/hdb'
Opened output device '/dev/hda'
Beginning Clone operation for 40000000000 bytes
Beginning Clone operation
Beginning Clone operation
Clone Complete
Clone was completed successfully.

Read : 40.00 GB (40000000000 bytes)
Written : 40.00 GB (40000000000 bytes)
Total Processed: 40.00 GB (40000000000 bytes)
Clone Speed : 31.45 MB/sec
Elapsed Time : 0h 21m 12s
Bad Sectors : 0
Clearing computer memory...

Source SHA1 Hash: 15CAA1A307271160D8372668BF8A03FC45A51CC9

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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-04 A clone is created.</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-11 A clone is created during acquisition.</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-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>as expected</td>
</tr>
</tbody>
</table>

Analysis: Expected results achieved

5.2.2 DA-01-ATA48

Test Case DA-01-ATA48 ILook IXimager Version 2.0, Feb 01 2006

Description: DA-01 Acquire a physical device using access interface AI to an unaligned clone.

Assertions:
AM-01 The tool uses access interface SRC-AI to access the digital source.
AM-02 The tool acquires digital source DS
AM-03 The tool executes in execution environment XE.
**Test Case DA-01-ATA48 ILook IXimager Version 2.0, Feb 01 2006**

AM-04 If clone creation is specified, the tool creates a clone of the digital source.
AM-06 All visible sectors are acquired from the digital source.
AM-08 All sectors acquired from the digital source are acquired accurately.
AO-11 If requested, a clone is created during an acquisition of a digital source.
AO-13 A clone is created using access interface DST-AI to write to the clone device.
AO-14 If an unaligned clone is created, each sector written to the clone is accurately written to the same disk address on the clone that the sector occupied on the digital source.
AO-17 If requested, any excess sectors on a clone destination device are not modified.
AO-22 If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source.
AO-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
AO-24 If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process.

**Tester Name:** brl
**Test Host:** Freddy
**Test Date:** Wed Mar 22 15:46:50 2006
**Drives:**
- src (4F)
- dst (4D)
- other (none)

**Source**
src hash: < 51FE53FD6BF7B7B69A875EDBB9AC01D41194C78C >

**Setup**
- 488397168 total sectors (25005935016 bytes)
- 30400/254/63 (max cyl/hd values)
- 30401/255/63 (number of cyl/hd)
- IDE disk: Model (WD WD2500JB-00EVA0) serial # (WD-WMAH2681554)
  N Start LBA Length Start C/H/S End C/H/S boot Partition type
  1 P 000000063 268413957 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 268413957 sectors 137427945984 bytes

**Log**
**Highlights:**
Comparision of original to clone
Sectors compared: 488397168
Sectors match: 488397168
Sectors differ: 0
Bytes differ: 0
Diffs range
0 source read errors, 0 destination read errors

**IXImager Log file**
- hda: 488397168 sectors (250059 MB) w/8192KiB Cache, CHS=30401/255/63, UDMA(33)
- hdb: 488397168 sectors (250059 MB) w/8192KiB Cache, CHS=30401/255/63, UDMA(33)

Initializing...
Opened input device '/dev/hda'
Opened output device '/dev/hda'.
Beginning Clone operation for 250059350016 bytes
Beginning Clone operation
Beginning Clone operation
Clone Complete
Clone was completed successfully.

- Read: 250.1 GB (250059350016 bytes)
- Written: 250.1 GB (250059350016 bytes)
- Total Processed: 250.1 GB (250059350016 bytes)
- Clone Speed: 14.71 MB/sec
- Elapsed Time: 4h 43m 19s
- Bad Sectors: 0
- Clearing computer memory...

**Source SHA1 Hash**: 51FE53FD6BF7B7B69A875EDBB9AC01D41194C78C

**Results:**

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM-01 Source acquired using interface AI.</td>
<td>as expected</td>
</tr>
</tbody>
</table>
### Test Case DA-01-ATA48

**Description:** DA-01 Acquire a physical device using access interface AI to an unaligned clone.

**Assertions:**
- AM-01 The tool uses access interface SRC-AI to access the digital source.
- AM-02 The tool acquires digital source DS.
- AM-03 The tool executes in execution environment XE.
- AM-04 If clone creation is specified, the tool creates a clone of the digital source.
- AM-06 All visible sectors are acquired from the digital source.
- AM-08 All sectors acquired from the digital source are acquired accurately.
- AO-11 If requested, a clone is created during an acquisition of a digital source.
- AO-13 A clone is created using access interface DST-AI to write to the clone device.
- AO-14 If an unaligned clone is created, each sector written to the clone is accurately written to the same disk address on the clone that the sector occupied on the digital source.
- AO-17 If requested, any excess sectors on a clone destination device are not modified.
- AO-22 If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source.
- AO-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
- AO-24 If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process.

**Analysis:** Expected results achieved

<table>
<thead>
<tr>
<th>Action</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM-02</td>
<td>Source is type DS as expected</td>
</tr>
<tr>
<td>AM-03</td>
<td>Execution environment is XE as expected</td>
</tr>
<tr>
<td>AM-04</td>
<td>A clone is created as expected</td>
</tr>
<tr>
<td>AM-06</td>
<td>All visible sectors acquired as expected</td>
</tr>
<tr>
<td>AM-08</td>
<td>All sectors accurately acquired as expected</td>
</tr>
<tr>
<td>AO-11</td>
<td>A clone is created during acquisition as expected</td>
</tr>
<tr>
<td>AO-13</td>
<td>Clone created using interface AI as expected</td>
</tr>
<tr>
<td>AO-14</td>
<td>An unaligned clone is created as expected</td>
</tr>
<tr>
<td>AO-17</td>
<td>Excess sectors are unchanged as expected</td>
</tr>
<tr>
<td>AO-22</td>
<td>Tool calculates hashes by block option not available</td>
</tr>
<tr>
<td>AO-23</td>
<td>Logged information is correct as expected</td>
</tr>
<tr>
<td>AO-24</td>
<td>Source is unchanged by acquisition as expected</td>
</tr>
</tbody>
</table>

### 5.2.3 DA-01-FIREWIRE

**Description:** DA-01 Acquire a physical device using access interface AI to an unaligned clone.

**Assertions:**
- AM-01 The tool uses access interface SRC-AI to access the digital source.
- AM-02 The tool acquires digital source DS.
- AM-03 The tool executes in execution environment XE.
- AM-04 If clone creation is specified, the tool creates a clone of the digital source.
- AM-06 All visible sectors are acquired from the digital source.
- AM-08 All sectors acquired from the digital source are acquired accurately.
- AO-11 If requested, a clone is created during an acquisition of a digital source.
- AO-13 A clone is created using access interface DST-AI to write to the clone device.
- AO-14 If an unaligned clone is created, each sector written to the clone is accurately written to the same disk address on the clone that the sector occupied on the digital source.
- AO-17 If requested, any excess sectors on a clone destination device are not modified.
- AO-22 If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source.
- AO-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
- AO-24 If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process.

**Tester Name:** brl

**Test Host:** Joe

**Test Date:** Fri Mar 24 16:09:33 2006

**Drives:**
- src(24-FU2)
- dst (61-FU2)
- other (none)

**Source Setup:**
- src hash: < A78EDB5E90298D0CDF199B4B62119F81208A252A >
- 39070080 total sectors (20003880960 bytes)
- 19076/063/32 (max cyl/hd values)
- 19077/064/32 (number of cyl/hd)
- Model (ATCS04-0) serial # { CSH206D9DSEL}

**Log Highlights:**
- Comparison of original to clone
  - Sectors compared: 39070080
  - Sectors match: 39070080
  - Sectors differ: 0
  - Bytes differ: 0
  - Diff range
  - Source (39070080) has 78234912 fewer sectors than destination (117304992)
  - Zero fill: 0
  - Src Byte fill (24): 0
  - Dst Byte fill (61): 78234912
  - Other fill: 0
  - Other no fill: 0
  - Zero fill range:
    - Src fill range: 39070080-117304991
    - Dst fill range: 39070080-117304991

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Test Case DA-01-FIREWIRE

Other fill range:
Other not filled range:
0 source read errors, 0 destination read errors

 IXImager Log file
SCSI device sdb: 117304992 512-byte hdwr sectors (60060 MB)
SCSI device sdc: 39070080 512-byte hdwr sectors (20004 MB)
SCSI device sdb: 117304992 512-byte hdwr sectors (60060 MB)
Initializing...
Opened input device '/dev/sdc'
Opened output device '/dev/sdb'
Beginning Clone operation for 20003880960 bytes
Beginning Clone operation
Beginning Clone operation
Clone Complete
Clone was completed successfully.

Read : 20.00 GB (20003880960 bytes)
Written : 20.00 GB (20003880960 bytes)
Total Processed: 20.00 GB (20003880960 bytes)
Clone Speed : 6.428 MB/sec
Elapsed Time : 0h 51m 52s
Bad Sectors : 0
Clearing computer memory...

Source SHA1 Hash: A78EDB5E90298D0CDF199B4B62119F81208A252A

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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-04 A clone is created.</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-11 A clone is created during acquisition.</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-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>as expected</td>
</tr>
</tbody>
</table>

Analysis: Expected results achieved

5.2.4 DA-01-SATA28

Test Case DA-01-SATA28

Description: DA-01 Acquire a physical device using access interface AI to an unaligned clone.

Assertions:

<table>
<thead>
<tr>
<th>Assertion</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM-01</td>
<td>The tool uses access interface SRC-AI to access the digital source.</td>
</tr>
<tr>
<td>AM-02</td>
<td>The tool acquires digital source DS.</td>
</tr>
<tr>
<td>AM-03</td>
<td>The tool executes in execution environment XE.</td>
</tr>
<tr>
<td>AM-04</td>
<td>If clone creation is specified, the tool creates a clone of the digital source.</td>
</tr>
<tr>
<td>AM-06</td>
<td>All visible sectors are acquired from the digital source.</td>
</tr>
<tr>
<td>AM-08</td>
<td>All sectors acquired from the digital source are acquired accurately.</td>
</tr>
<tr>
<td>AO-11</td>
<td>If requested, a clone is created during an acquisition of a digital source.</td>
</tr>
<tr>
<td>AO-13</td>
<td>A clone is created using access interface DST-AI to write to the clone device.</td>
</tr>
<tr>
<td>AO-14</td>
<td>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.</td>
</tr>
<tr>
<td>AO-17</td>
<td>If requested, any excess sectors on a clone destination device are not modified.</td>
</tr>
<tr>
<td>AO-22</td>
<td>If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source.</td>
</tr>
<tr>
<td>AO-23</td>
<td>If the tool logs any log significant information, the information is</td>
</tr>
</tbody>
</table>
Test Case DA-01-SATA28 iLook IXImager Version 2.0, Feb 01 2006

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: Joe
Test Date: Wed Mar 22 10:41:20 2006
Drives: src(07) dst (06) other (none)
Source arc hash: < 655E9BDDB36A3F9C5C4CC8BF32B8CSB41AF9F52E>
Setup: 156301488 total sectors (80026361856 bytes)
Model (WD WD800JD-32HK) serial # (WD-WMAJ91510044)
N Start LBA Length Start C/H/S End C/H/S boot Partition type
1 P 000000063 156280257 0000/001/01 1023/254/63 Boot 07 NTFS
2 P 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 156280257 sectors 80015491584 bytes

Log Highlights: Comparision of original to clone
Sectors compared: 156301488
Sectors match: 156301488
Sectors differ: 0
Bytes differ: 0
Diffs range
0 source read errors, 0 destination read errors

IXImager Log file
ata1: dev 0 ATA-6, max UDMA/133, 156301488 sectors: LBA
ata2: dev 0 ATA-6, max UDMA/133, 156301488 sectors: LBA
SCSI device sdb: 156301488 512-byte hdwr sectors (80026 MB)
SCSI device sdc: 156301488 512-byte hdwr sectors (80026 MB)
SCSI device sdc: 156301488 512-byte hdwr sectors (80026 MB)
Initializing...
Opened input device '/dev/sdb'
Opened output device '/dev/sdc'
Beginning Clone operation for 80026361856 bytes
Beginning Clone operation
Beginning Clone operation
Clone Complete
Clone was completed successfully.
Read : 80.03 GB (80026361856 bytes)
Written : 80.03 GB (80026361856 bytes)
Total Processed: 80.03 GB (80026361856 bytes)
Clone Speed : 48.01 MB/sec
Elapsed Time : 0h 27m 47s
Bad Sectors : 0
Clearing computer memory...

Source SHA1 Hash: 655E9BDDB36A3F9C5C4CC8BF32B8CSB41AF9F52E

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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-04 A clone is created.</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-11 A clone is created during acquisition.</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-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>as expected</td>
</tr>
</tbody>
</table>

Analysis: Expected results achieved
5.2.5 DA-01-SATA48

Test Case DA-01-SATA48 ILook IXimager Version 2.0, Feb 01 2006

Description: DA-01 Acquire a physical device using access interface AI to an unaligned clone.

Assertions: 
AM-01 The tool uses access interface SRC-AI to access the digital source.
AM-02 The tool acquires digital source DS.
AM-03 The tool executes in execution environment XE.
AM-04 If clone creation is specified, the tool creates a clone of the digital source.
AM-06 All visible sectors are acquired from the digital source.
AM-08 All sectors acquired from the digital source are acquired accurately.
AO-11 If requested, a clone is created during an acquisition of a digital source.
AO-13 A clone is created using access interface DST-AI to write to the clone device.
AO-14 If an unaligned clone is created, each sector written to the clone is accurately written to the same disk address on the clone that the sector occupied on the digital source.
AO-17 If requested, any excess sectors on a clone destination device are not modified.
AO-22 If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source.
AO-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
AO-24 If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process.

Tester Name: brl
Test Host: Joe
Test Date: Wed Mar 22 16:46:04 2006
Drives: src(0D) dst (0E) other (none)

Source
Setup:
src hash: < BAAD80E8781E55F2E3EF528CA73BD41D228C1377 >
488397168 total sectors (250059350016 bytes)
30400/254/63 (max cyl/hd values)
30401/255/63 (number of cyl/hd)
Model (WDC WD2500JD-22P) serial # (WD-WMAEH2678216)
N Start LBA Length Start C/H/S End C/H/S boot Partition type
1 P 0000000063 488375937 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 488375937 sectors 250048479744 bytes

Log
Highlights: Comparison of original to clone
Sectors compared: 488397168
Sectors match: 488397168
Sectors differ: 0
Bytes differ: 0
Diffs range
0 source read errors, 0 destination read errors

IXImager Log file
ata1: dev 0 ATA-6, max UDMA/100, 488397168 sectors: LBA48
ata2: dev 0 ATA-6, max UDMA/100, 488397168 sectors: LBA48
SCSI device sdb: 488397168 512-byte hdwr sectors (250059 MB)
SCSI device sdc: 488397168 512-byte hdwr sectors (250059 MB)
SCSI device sdb: 488397168 512-byte hdwr sectors (250059 MB)
Iniitalizing...
Opened input device '/dev/sdc'
Opened output device '/dev/sdb'.
Beginning Clone operation for 250059350016 bytes
Beginning Clone operation
Beginning Clone operation
Clone Complete
Clone was completed successfully.

Read: 250.1 GB (250059350016 bytes)
Written: 250.1 GB (250059350016 bytes)
Total Processed: 250.1 GB (250059350016 bytes)
Clone Speed: 45.25 MB/sec
Test Case DA-01-SATA48

ILook IXimager Version 2.0, Feb 01 2006

Elapsed Time : 1h 32m 6s
Bad Sectors : 0
Clearing computer memory...

Source SHA1 Hash: BAAD80E8781E55F2X5F528CA73BD41D228C1377

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM-01 Source acquired using interface AI. as expected</td>
<td></td>
</tr>
<tr>
<td>AM-02 Source is type DS. as expected</td>
<td></td>
</tr>
<tr>
<td>AM-03 Execution environment is XE. as expected</td>
<td></td>
</tr>
<tr>
<td>AM-04 A clone is created. as expected</td>
<td></td>
</tr>
<tr>
<td>AM-06 All visible sectors acquired. as expected</td>
<td></td>
</tr>
<tr>
<td>AM-08 All sectors accurately acquired. as expected</td>
<td></td>
</tr>
<tr>
<td>AO-11 A clone is created during acquisition. as expected</td>
<td></td>
</tr>
<tr>
<td>AO-13 Clone created using interface AI. as expected</td>
<td></td>
</tr>
<tr>
<td>AO-14 An unaligned clone is created. as expected</td>
<td></td>
</tr>
<tr>
<td>AO-17 Excess sectors are unchanged. as expected</td>
<td></td>
</tr>
<tr>
<td>AO-22 Tool calculates hashes by block. option not available</td>
<td></td>
</tr>
<tr>
<td>AO-23 Logged information is correct. as expected</td>
<td></td>
</tr>
<tr>
<td>AO-24 Source is unchanged by acquisition. as expected</td>
<td></td>
</tr>
</tbody>
</table>

Analysis: Expected results achieved

5.2.6 DA-01-SCSI

Test Case DA-01-SCSI

ILook IXimager Version 2.0, Feb 01 2006

Description: DA-01 Acquire a physical device using access interface AI to an unaligned clone.

Assertions: AM-01 The tool uses access interface SRC-AI to access the digital source. AM-02 The tool acquires digital source DS. AM-03 The tool executes in execution environment XE. AM-04 If clone creation is specified, the tool creates a clone of the digital source. AM-06 All visible sectors are acquired from the digital source. AM-08 All sectors acquired from the digital source are acquired accurately. AO-11 If requested, a clone is created during an acquisition of a digital source. AO-13 A clone is created using access interface DST-AI to write to the clone device. AO-14 If an unaligned clone is created, each sector written to the clone is accurately written to the same disk address on the clone that the sector occupied on the digital source. AO-17 If requested, any excess sectors on a clone destination device are not modified. AO-22 If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source. AO-23 If the tool logs any log significant information, the information is accurately recorded in the log file. AO-24 If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process.

Tester Name: brl
Test Host: Freddy
Test Date: Wed Mar 22 10:59:15 2006
Drives: src(2A) dst (2C) other (none)
Source

<table>
<thead>
<tr>
<th>Setup:</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>src hash:</td>
<td>&lt; F5F9F2903DCAB895F16E270FB22A722B2791B2125 &gt;</td>
<td></td>
</tr>
<tr>
<td>17783249 total sectors (9105023488 bytes)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model (QM39100TD-SCA ) serial # (PCB=20-116711-06 HDAQM39100TD-SCA )</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N Start LBA Length Start C/H/S End C/H/S boot Partition type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 P 000000006 017751762 0000/001/01 1023/254/63 Boot 07 NTFS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 017751762 sectors 9088902144 bytes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Log

Highlights: Comparison of original to clone
Sectors compared: 17783249
Sectors match: 17783249
Sectors differ: 0
Bytes differ: 0
Diffs range
0 source read errors, 0 destination read errors

IXImager Log file
SCSI device sdb: 17783249 512-byte hdwr sectors (9105 MB)
SCSI device sdc: 17783249 512-byte hdwr sectors (9105 MB)
SCSI device sdb: 17783249 512-byte hdwr sectors (9105 MB)
Initializing...
Opened input device '/dev/sdc'
Opened output device '/dev/sdb'
Beginning Clone operation for 9105023488 bytes
Beginning Clone operation
Beginning Clone operation
Clone Complete
Clone was completed successfully.

Read : 9.105 GB (9105023488 bytes)
Written : 9.105 GB (9105023488 bytes)
Total Processed: 9.105 GB (9105023488 bytes)
Clone Speed : 11.66 MB/sec
Elapsed Time : 0h 13m 1s
Bad Sectors : 0
Clearing computer memory...

Source SHA1 Hash: F5F9F2903DCAB895F36E270FB22A722E72918125

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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-04 A clone is created.</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-11 A clone is created during acquisition.</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-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>as expected</td>
</tr>
</tbody>
</table>

Analysis: Expected results achieved

5.2.7 DA-01-USB

Description: DA-01 Acquire a physical device using access interface AI to an unaligned clone.

Assertions:
AM-01 The tool uses access interface SRC-AI to access the digital source.
AM-02 The tool acquires digital source DS.
AM-03 The tool executes in execution environment XE.
AM-04 If clone creation is specified, the tool creates a clone of the digital source.
AM-06 All visible sectors are acquired from the digital source.
AM-08 All sectors acquired from the digital source are acquired accurately.
AO-11 If requested, a clone is created during an acquisition of a digital source.
AO-13 A clone is created using access interface DST-AI to write to the clone device.
AO-14 If an unaligned clone is created, each sector written to the clone is accurately written to the same disk address on the clone that the sector occupied on the digital source.
AO-17 If requested, any excess sectors on a clone destination device are not modified.
AO-22 If requested, the tool calculates block hashes for a specified block.
Test Case DA-01-USB ILook IXimager Version 2.0, Feb 01 2006

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: JohnSteed
Test Date: Sun Mar 26 14:50:02 2006

Drives:
src(63-FU2) dst (61-FU2) other (none)

Source: arc hash: < F7069EDCBEAC863C88DECED82159F22DA96BE99B >
src(63-FU2) dst (61-FU2) other (none)

AO-23 If the tool logs any log significant information, the information is accurately recorded in the log file.

Drives: 
src(63-FU2) dst (61-FU2) other (none)

Source: arc hash: < F7069EDCBEAC863C88DECED82159F22DA96BE99B >

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.

AO-24 If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process.

AO-24 Source is unchanged by acquisition. as expected

AO-25 Logged information is correct. as expected

AO-26 Tool calculates hashes by block. option not available

AO-01 Source acquired using interface AI. as expected

AO-02 Source is type DS. as expected

AO-03 Execution environment is XE. as expected

AO-04 A clone is created. as expected

AO-05 All visible sectors acquired. as expected

AO-06 All sectors accurately acquired. as expected

AO-11 A clone is created during acquisition. as expected

AO-12 Clone created using interface AI. as expected

AO-13 Clone created using interface AI. as expected

AO-14 An unaligned clone is created. as expected

AO-15 Excess sectors are unchanged. as expected

AO-16 Excess sectors are unchanged. as expected

AO-17 Excess sectors are unchanged. as expected

AO-18 Excess sectors are unchanged. as expected

AO-19 Excess sectors are unchanged. as expected

AO-20 Excess sectors are unchanged. as expected

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5.2.8 DA-02-CF

Test Case DA-02-CF ILook IXimager Version 2.0, Feb 01 2006

Description: DA-02 Acquire a digital source of type DS to an unaligned clone.

Assertions: AM-01 The tool uses access interface SRC-AI to access the digital source.
AM-02 The tool acquires digital source DS.
AM-03 The tool executes in execution environment XE.
AM-04 If clone creation is specified, the tool creates a clone of the digital source.
AM-06 All visible sectors are acquired from the digital source.
AM-08 All sectors acquired from the digital source are acquired accurately.
AO-11 If requested, a clone is created during an acquisition of a digital source.
AO-13 A clone is created using access interface DST-AI to write to the clone device.
AO-14 If an unaligned clone is created, each sector written to the clone is accurately written to the same disk address on the clone that the sector occupied on the digital source.
AO-17 If requested, any excess sectors on a clone destination device are not modified.
AO-22 If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source.
AO-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
AO-24 If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process.

Tester Name: brl
Test Host: JohnSteed
Test Date: Wed May 10 15:41:28 2006
Drives: src(C1-CF) dst (C2-CF) other (none)

Source setup:
src hash: < 5BB235178DF99FA307430C088F81746606638A0B >
503808 total sectors (257949696 bytes)
Removable media, no partition table.

Log:
Comparision of original to clone
Sectors compared: 503808
Sectors match: 503808
Sectors differ: 0
Bytes differ: 0
Diffs range
0 source read errors, 0 destination read errors

IXImager Log file
hda: 156301488 sectors (80026 MB) w/8192KiB Cache, CHS=9729/255/63,
UDMA(100)
SCSI device sda: 503808 512-byte hdwr sectors (258 MB)
SCSI device sdb: 503808 512-byte hdwr sectors (258 MB)
SCSI device sdb: 503808 512-byte hdwr sectors (258 MB)
Initializing...
Opened input device '/dev/sda'
Opened output device '/dev/sdb'
Beginning Clone operation for 257949696 bytes
Beginning Clone operation
Beginning Clone operation
Clone Complete
Clone was completed successfully.
Read : 257.9 MB (257949696 bytes)
Written : 257.9 MB (257949696 bytes)
Total Processed: 257.9 MB (257949696 bytes)
Clone Speed : 5.862 MB/sec
Elapsed Time : 0h 0m 44s
Bad Sectors : 0
Clearing computer memory...
Test Case DA-02-CF ILook IXimager Version 2.0, Feb 01 2006

Source SHA1 Hash: 5B8235178DF99FA307430C088F81746606638A0B

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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-04 A clone is created</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-11 A clone is created during acquisition.</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-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>as expected</td>
</tr>
</tbody>
</table>

Analysis: Expected results achieved

5.2.9 DA-02-F12

Test Case DA-02-F12 ILook IXimager Version 2.0, Feb 01 2006

Description: DA-02 Acquire a digital source of type DS to an unaligned clone.

Assertions:

- AM-01 The tool uses access interface SRC-AI to access the digital source.
- AM-02 The tool acquires digital source DS.
- AM-03 The tool executes in execution environment XE.
- AM-04 If clone creation is specified, the tool creates a clone of the digital source.
- AM-06 All visible sectors are acquired from the digital source.
- AM-08 All sectors acquired from the digital source are acquired accurately.
- AO-11 If requested, a clone is created during an acquisition of a digital source.
- AO-13 A clone is created using access interface DST-AI to write to the clone device.
- AO-14 If an unaligned clone is created, each sector written to the clone is accurately written to the same disk address on the clone that the sector occupied on the digital source.
- AO-17 If requested, any excess sectors on a clone destination device are not modified.
- AO-22 If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source.
- AO-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
- AO-24 If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process.

Tester Name: brl

Test Host: Joe

Test Date: Wed Apr 19 14:12:39 2006

Drives:
- src(43) dst (A7) other (none)

Source:
- src hash: < 888E2E7F7AD237DC7A732281DD93F325065E5871 >
- 78125000 total sectors (40000000000 bytes)

Model (0BB-75JHC0 ) serial # ( WD-WMA4C165B8)

N Start LBA Length Start C/H/S End C/H/S boot Partition type
1 P 000000063 020980827 0000/01/01 1023/254/63 0C Fat32X
2 X 020980890 057143205 1023/000/01 1023/254/63 0F extended
3 S 000000063 000320667 1023/001/01 1023/254/63 01 Fat12
4 x 0000032130 02104515 1023/000/01 1023/254/63 05 extended
5 S 000000063 021045452 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 01274405 010409445 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 004208867 1023/001/01 1023/254/63 82 Linux swap
14 x 029431080 027712125 1023/000/01 1023/254/63 05 extended
Log
Highlights: IXImager Log file
SCSI device sdb: 39102336 512-byte hdwr sectors (20020 MB)
SCSI device sdc: 78125000 512-byte hdwr sectors (40000 MB)
SCSI device sdb: 39102336 512-byte hdwr sectors (20020 MB)
Initializing...
Opened input device '/dev/sdc5'
Opened output device '/dev/sdb'
Beginning Clone operation for 16418304 bytes
Beginning Clone operation
Beginning Clone operation
Clone Complete
Clone was completed successfully.
Read : 16.42 MB (16418304 bytes)
Written : 16.42 MB (16418304 bytes)
Total Processed: 16.42 MB (16418304 bytes)
Clone Speed : 8.209 MB/sec
Elapsed Time : 0h 0m 2s
Bad Sectors : 0
Clearing computer memory...
Hashes of src and dst partitions
Src SHA1 Hash: 6853B517F50BF3CCADED3DB5FEAE08C18C62FCA0 -
Dst SHA1 Hash: 6853B517F50BF3CCADED3DB5FEAE08C18C62FCA0 -
Source SHA1 Hash: 888E2E7F7AD237DC7A732281DD93F32505E5871

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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-04 A clone is created.</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-11 A clone is created during acquisition.</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-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>as expected</td>
</tr>
</tbody>
</table>

Analysis: Expected results achieved

5.2.10 DA-02-F16

Test Case DA-02-F16 IXImager Version 2.0, Feb 01 2006

Description: DA-02 Acquire a digital source of type DS to an unaligned clone.

Assertions:
- AM-01 The tool uses access interface SRC-AI to access the digital source.
- AM-02 The tool acquires digital source DS.
- AM-03 The tool executes in execution environment XE.
- AM-04 If clone creation is specified, the tool creates a clone of the digital source.
- AM-06 All visible sectors are acquired from the digital source.
All sectors acquired from the digital source are acquired accurately. If requested, a clone is created during an acquisition of a digital source. A clone is created using access interface DST-AI to write to the clone device. 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. If requested, any excess sectors on a clone destination device are not modified. If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source. The tool logs any log significant information, the information is accurately recorded in the log file. If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process.

Test Host: Joe
Test Date: Thu Apr 20 09:24:03 2006
Drives: arc(43) dst (A7) other (none)

Source: arc hash: <888E2E7FAD237DC7A732281DD93F125S065B5871>
Setup: 78125000 total sectors (40000000000 bytes)

Model (0BB-75JHC0) aerial # (WD-WMAC46588)
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 000032067 000032067 1023/001/01 1023/254/63 01 Fat12
4 x 000032130 002104515 1023/001/01 1023/254/63 05 extended
5 S 000000063 021044515 1023/001/01 1023/254/63 06 Fat16
6 x 002136645 004192902 1023/001/01 1023/254/63 16 other
7 S 000000063 04192902 1023/001/01 1023/254/63 0F extended
8 x 006329610 008401932 1023/001/01 1023/254/63 0B Fat32
9 S 000000063 008401932 1023/001/01 1023/254/63 05 extended
10 x 014731605 014900445 1023/001/01 1023/254/63 05 extended
11 S 000000063 014900382 1023/001/01 1023/254/63 83 Linux
12 x 025222050 004209030 1023/001/01 1023/254/63 05 extended
13 S 000000063 04208967 1023/001/01 1023/254/63 82 Linux swap
14 x 029431080 027712125 1023/001/01 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

020980827 sectors 10742183424 bytes
3 000032067 sectors 16418304 bytes
4 000032130 sectors 16418304 bytes
5 002136645 sectors 32836608 bytes
9 008401932 sectors 4301789184 bytes
11 014731605 sectors 1077479424 bytes
12 025222050 sectors 1077479424 bytes
13 006329610 sectors 1077479424 bytes
15 027712062 sectors 14188575744 bytes

Log Highlights:

IXImager Log file
SCSI device sdb: 78125000 512-byte hdwr sectors (40000 MB)
SCSI device sdc: 39102336 512-byte hdwr sectors (20020 MB)
SCSI device sdc: 39102336 512-byte hdwr sectors (20020 MB)
Initializing...
Opened input device '/dev/sdb6'
Opened output device '/dev/sdc'
Beginning Clone operation for 1077479424 bytes
Beginning Clone operation
Beginning Clone operation
Beginning Clone operation
Clone Complete
Clone was completed successfully.

Read: 1.077 GB (1077479424 bytes)
Written: 1.077 GB (1077479424 bytes)
Total Processed: 1.077 GB (1077479424 bytes)
Clone Speed: 10.67 MB/sec
Elapsed Time: 0h 1m 41s
Bad Sectors: 0
Clearing computer memory...
### Test Case DA-02-F16

**ILook IXimager Version 2.0, Feb 01 2006**

Hashes of src and dst partitions

Src SHA1 Hash: 443CC6C9A227276DAF6CE384817151C838E3B3C8B -
Dst SHA1 Hash: 443CC6C9A227276DAF6CE384817151C838E3B3C8B -
Source SHA1 Hash: 88E82E7F7AD237DC7A732281DD93F325065E5871

**Results:**

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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-04 A clone is created.</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-11 A clone is created during acquisition.</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-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>as expected</td>
</tr>
</tbody>
</table>

**Analysis:** Expected results achieved

### 5.2.11 DA-02-F32

**Test Case DA-02-F32 ILook IXimager Version 2.0, Feb 01 2006**

**Description:** DA-02 Acquire a digital source of type DS to an unaligned clone.

**Assertions:**

AM-01 The tool uses access interface SRC-AI to access the digital source.
AM-02 The tool acquires digital source DS.
AM-03 The tool executes in execution environment XE.
AM-04 If clone creation is specified, the tool creates a clone of the digital source.
AM-06 All visible sectors are acquired from the source.
AM-08 All sectors acquired from the digital source are acquired accurately.
AO-11 If requested, a clone is created during an acquisition of a digital source.
AO-13 A clone is created using access interface DST-AI to write to the clone device.
AO-14 If an unaligned clone is created, each sector written to the clone is accurately written to the same disk address on the clone that the sector occupied on the digital source.
AO-17 If requested, any excess sectors on a clone destination device are not modified.
AO-22 If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source.
AO-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
AO-24 If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process.

**Tester Name:** brl

**Test Host:** Joe

**Test Date:** Thu Apr 20 11:23:27 2006

**Drives:**

<table>
<thead>
<tr>
<th>Drives</th>
<th>Type</th>
<th>Hash</th>
<th>Total Sectors</th>
<th>Boot</th>
<th>Partition Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>src(43)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>dst (A7)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>other (none)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Source Setup:**

src hash: < 88E82E7F7AD237DC7A732281DD93F325065E5871 >

78125000 total sectors (40000000000 bytes)

Model (0BB-75JHC0 ) aerial # ( W-7WAKC46588)

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 00032067 1023/001/01 1023/254/63 01 Fat12
4 x 000003130 002104515 1023/000/01 1023/254/63 05 extended
5 S 000000063 002104452 1023/001/01 1023/254/63 06 Fat16
6 X 002136645 004192902 1023/000/01 1023/254/63 16 other
7 S 000000063 004192902 1023/001/01 1023/254/63 0B Fat32
Test Case DA-02-F32 ILook IXimager Version 2.0, Feb 01 2006

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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-04 A clone is created.</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-11 A clone is created during acquisition.</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-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>as expected</td>
</tr>
</tbody>
</table>

Analysis: Expected results achieved

5.2.12 DA-02-F32X

Test Case DA-02-F32X ILook IXimager Version 2.0, Feb 01 2006
Description: DA-02 Acquire a digital source of type DS to an unaligned clone.
Assertions: AM-01 The tool uses access interface SRC-AI to access the digital source.
## Test Case DA-02-F32X ILook IXimager Version 2.0, Feb 01 2006

| AM-02 | The tool acquires digital source DS. |
| AM-03 | The tool executes in execution environment XE.  |
| AM-04 | If clone creation is specified, the tool creates a clone of the digital source.  |
| AM-06 | All visible sectors are acquired from the digital source.  |
| AO-11 | If requested, a clone is created during an acquisition of a digital source.  |
| AO-13 | A clone is created using access interface DST-AI to write to the clone device.  |
| AO-14 | If an unaligned clone is created, each sector written to the clone is accurately written to the same disk address on the clone that the sector occupied on the digital source.  |
| AO-17 | If requested, any excess sectors on a clone destination device are not modified.  |
| AO-22 | If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source.  |
| AO-23 | If the tool logs any log significant information, the information is accurately recorded in the log file.  |
| AO-24 | If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process.  |

**Tester Name:** brl  
**Test Host:** Max  
**Test Date:** Wed Apr 19 09:01:16 2006  
**Drives:** src(44) dst (23-FU2) other (none)  
**Source Setup:**  
- **src hash:** < E196D36E7B322C0EF83923112AD1800581742B6E >  
- 65534/015/63 (max cyl/hd values)  
- 65535/016/63 (number of cyl/hd)  
**IDE disk:** Model (WDC WD400JB-00FMA0) serial # (WD-WMAJC101131)  
- 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 02111057175335 1023/000/01 1023/254/63 01 Fat12  
  3 S 000000063 000032067 1023/001/01 1023/254/63 05 extended  
  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 08 Fat12  
  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 004209697 1023/000/01 1023/254/63 82 Linux swap  
  14 x 029431080 027744255 1023/000/01 1023/254/63 05 extended  
  15 S 000000063 027744192 1023/000/01 1023/254/63 07 NTFS  
  16 S 000000063 000000000 0000/000/00 0000/000/00 00 empty entry  
  17 P 000000063 000000000 0000/000/00 0000/000/00 00 empty entry  
  18 P 000000063 000000000 0000/000/00 0000/000/00 00 empty entry  
  1 002980827 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 004209897 sectors 2154991104 bytes  
  15 027744192 sectors 14205026304 bytes  

**Log Highlights:**  
- IXImager Log file  
- SCSI device sdb: 39070080 512-byte hdwr sectors (20004 MB)  
- SCSI device sdc: 78165360 512-byte hdwr sectors (40021 MB)  
- Initializing...  
- Opened input device '/dev/sdc1'  
- Opened output device '/dev/sdb'  
- Beginning Clone operation for 10742183424 bytes  
- Beginning Clone operation  
- Beginning Clone operation  
- Clone Complete  
- Clone was completed successfully.
Read : 10.74 GB (10742183424 bytes)
Written : 10.74 GB (10742183424 bytes)
Total Processed: 10.74 GB (10742183424 bytes)
Clone Speed : 7.987 MB/sec
Elapsed Time : 0h 22m 25s
Bad Sectors : 0
Clearing computer memory...

Hashes of src and dst partitions
Src SHA1 Hash: D190A47B60A17FE6912CA26BEB237E923AD592FAE -
Dst SHA1 Hash: D190A47B60A17FE6912CA26BEB237E923AD592FAE -
Source SHA1 Hash: E196D36E7322C0E7F83923112AD1800581742B6E

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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-04 A clone is created.</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-11 A clone is created during acquisition.</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-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>as expected</td>
</tr>
</tbody>
</table>

Analysis: Expected results achieved

5.2.13 DA-02-HIDDEN

Test Case DA-02-HIDDEN ILook IXimager Version 2.0, Feb 01 2006

Description: DA-02 Acquire a digital source of type DS to an unaligned clone.

Assertions:
- AM-01 The tool uses access interface SRC-AI to access the digital source.
- AM-02 The tool acquires digital source DS.
- AM-03 The tool executes in execution environment XE.
- AM-04 If clone creation is specified, the tool creates a clone of the digital source.
- AM-06 All visible sectors are acquired from the digital source.
- AM-08 All sectors acquired from the digital source are acquired accurately.
- AO-11 If requested, a clone is created during an acquisition of a digital source.
- AO-13 A clone is created during an acquisition of a digital source.
- 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 as the sector occupied on the digital source.
- AO-17 If requested, any excess sectors on a clone destination device are not modified.
- AO-22 If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source.
- AO-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
- AO-24 If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process.

Tester Name: brl
Test Host: Joe
Test Date: Fri Apr 21 09:35:20 2006

Drives:

<table>
<thead>
<tr>
<th>Drives</th>
<th>Source</th>
<th>Setup</th>
</tr>
</thead>
<tbody>
<tr>
<td>src hash:</td>
<td>Model (0BB-75JHC0 )</td>
<td>Model (0BB-75JHC0 )</td>
</tr>
<tr>
<td>arc hash:</td>
<td>N Start LBA Length</td>
<td>N Start LBA Length</td>
</tr>
<tr>
<td>888E2E7F7AD237DC7A732281DD93F325065871 &gt;</td>
<td>78125000 total sectors (4000000000 bytes)</td>
<td>78125000 total sectors (4000000000 bytes)</td>
</tr>
<tr>
<td>drives: arc</td>
<td>Model (0BB-75JHC0 )</td>
<td>Model (0BB-75JHC0 )</td>
</tr>
<tr>
<td>0809088900</td>
<td>N Start C/H/S End C/H/S</td>
<td>N Start C/H/S End C/H/S</td>
</tr>
<tr>
<td>020980827</td>
<td>0000/001/01 1023/254/63</td>
<td>0000/001/01 1023/254/63</td>
</tr>
<tr>
<td>020980827</td>
<td>OC Fat32X</td>
<td>OC Fat32X</td>
</tr>
<tr>
<td>020980827</td>
<td>0F extended</td>
<td>0F extended</td>
</tr>
</tbody>
</table>

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Test Case DA-02-HIDDEN ILook IXImager Version 2.0, Feb 01 2006

3 S 000000063 00032067 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 004192902 1023/001/01 1023/254/63 05 extended
9 S 000000063 008401932 1023/001/01 1023/254/63 0B Fat32
10 x 014731605 010490382 1023/000/01 1023/254/63 83 Linux
11 S 000000063 010490382 1023/001/01 1023/254/63 82 Linux swap
12 x 025222050 004208967 1023/000/01 1023/254/63 05 extended
13 S 000000063 025222050 1023/001/01 1023/254/63 07 NTFS
14 S 000000063 004208967 1023/001/01 1023/254/63 05 extended
15 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry
16 S 000000063 000000000 0000/000/00 0000/000/00 00 empty entry

Log

Highlights: IXImager Log file
SCSI device sdb: 17783249 512-byte hdwr sectors (9105 MB)
SCSI device sdc: 78125000 512-byte hdwr sectors (40000 MB)
Initializing...
Opened input device '/dev/sdc7'
Opened output device '/dev/sdb'
Beginning Clone operation for 2146765824 bytes
Beginning Clone operation
Beginning Clone operation
Clone Complete
Clone was completed successfully.
Read : 2.147 GB (2146765824 bytes)
Written : 2.147 GB (2146765824 bytes)
Total Processed: 2.147 GB (2146765824 bytes)
Clone Speed : 13.50 MB/sec
Elapsed Time : 0h 2m 39s
Bad Sectors : 0
Clearing computer memory...

Hashes of src and dst partitions
Src SHA1 Hash: 9D0C959EE797F223DA273F7CC18239C1A6769C47 -
Dst SHA1 Hash: 9D0C959EE797F223DA273F7CC18239C1A6769C47 -
Source SHA1 Hash: 888E2E7F7AD237DC7A732281DD93F325065E5871

Results:

<table>
<thead>
<tr>
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<tbody>
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<td>AM-01 Source acquired using interface AI.</td>
<td>as expected</td>
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<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-04 A clone is created.</td>
<td>as expected</td>
</tr>
<tr>
<td>AM-05 All visible sectors acquired.</td>
<td>as expected</td>
</tr>
<tr>
<td>AM-06 All sectors accurately acquired.</td>
<td>as expected</td>
</tr>
<tr>
<td>AO-11 A clone is created during acquisition.</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-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>as expected</td>
</tr>
</tbody>
</table>

Analysis: Expected results achieved

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5.2.14 DA-02-LX

Test Case DA-02-LX IM Look IXImager Version 2.0, Feb 01 2006

Description: DA-02 Acquire a digital source of type DS to an unaligned clone.

Assertions:
AM-01 The tool uses access interface SRC-AI to access the digital source.
AM-02 The tool acquires digital source DS.
AM-03 The tool executes in execution environment XE.
AM-04 If clone creation is specified, the tool creates a clone of the digital source.
AM-06 All visible sectors are acquired from the digital source.
AM-08 All sectors acquired from the digital source are acquired accurately.
AO-11 If requested, a clone is created during an acquisition of a digital source.
AO-13 A clone is created using access interface DST-AI to write to the clone device.
AO-14 If an unaligned clone is created, each sector written to the clone is accurately written to the same disk address on the clone that the sector occupied on the digital source.
AO-17 If requested, any excess sectors on a clone destination device are not modified.
AO-22 If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source.
AO-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
AO-24 If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process.

Tester Name: brl
Test Host: Max
Test Date: Thu Apr 20 14:11:48 2006
Drives: src(44) dst (2C) other (none)

Source
Setup:
IDE disk: Model (WD 400JB-00PMA0) serial # (WD-WMAJC101319)

| N | Start LBA Length Start C/H/S End C/H/S boot Partition type |
|---|---|---|---|---|---|
| 1 | P | 000000063 020980827 000/001/01 1023/254/63 | 0C Fat32X |
| 2 | X | 020980890 057175335 1023/000/01 1023/254/63 | 0F extended |
| 3 | S | 000000063 000321067 1023/000/01 1023/254/63 | 01 Fat12 |
| 4 | X | 000032130 02104515 1023/000/01 1023/254/63 | 05 extended |
| 5 | S | 000000063 02104542 1023/000/01 1023/254/63 | 0F Fat16 |
| 6 | X | 002136645 040192902 1023/000/01 1023/254/63 | 16 other |
| 7 | S | 000000063 004192902 1023/001/01 1023/254/63 | 05 extended |
| 8 | X | 006329610 008401932 1023/000/01 1023/254/63 | 0B Fat32 |
| 9 | S | 000000063 008401932 1023/001/01 1023/254/63 | 0B Fat32 |
| 10 | X | 014731605 010490382 1023/000/01 1023/254/63 | 05 extended |
| 11 | S | 000000063 010490382 1023/000/01 1023/254/63 | 83 Linux |
| 12 | X | 025222050 040209030 1023/000/01 1023/254/63 | 05 extended |
| 13 | S | 000000063 040209067 1023/000/01 1023/254/63 | 82 Linux swap |
| 14 | X | 029431080 027744255 1023/000/01 1023/254/63 | 05 extended |
| 15 | S | 000000063 027744192 1023/000/01 1023/254/63 | 07 NTFS |
| 16 | S | 000000000 00000000 0000/000/00 0000/000/00 | 00 empty entry |
| 17 | P | 000000000 00000000 0000/000/00 0000/000/00 | 00 empty entry |
| 18 | P | 000000000 00000000 0000/000/00 0000/000/00 | 00 empty entry |

Log
Highlights:
IXImager Log file
SCSI device sdb: 17783249 512-byte hdwr sectors (9105 MB)
SCSI device sdc: 78165360 512-byte hdwr sectors (40021 MB)
SCSI device sdc: 17783249 512-byte hdwr sectors (9105 MB)

April 2007 30 of 116 Results of IXImager V2 02/01/06
Beginning Clone operation for 5371075584 bytes
Beginning Clone operation
Beginning Clone operation
Clone Complete
Clone was completed successfully.

Read : 5.371 GB (5371075584 bytes)
Written : 5.371 GB (5371075584 bytes)
Total Processed: 5.371 GB (5371075584 bytes)
Clone Speed : 12.82 MB/sec
Elapsed Time : 0h 6m 59s
Bad Sectors : 0
Clearing computer memory...

Hashes of src and dst partitions
Src SHA1 Hash: DB95CCA2D156D9BD0CEEF189296CF4F4F4D49C3 -
Dst SHA1 Hash: DB95CCA2D156D9BD0CEEF189296CF4F4F4D49C3 -
Source SHA1 Hash: E196D36E7B322C0EF83923112AD180581742B6E

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
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<tbody>
<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-04 A clone is created.</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-11 A clone is created during acquisition.</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-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>as expected</td>
</tr>
</tbody>
</table>

Analysis: Expected results achieved

5.2.15 DA-02-NT

Test Case DA-02-NT ILook IXimager Version 2.0, Feb 01 2006

Description: DA-02 Acquire a digital source of type DS to an unaligned clone.

Assertions:

- AM-01 The tool uses access interface SRC-AI to access the digital source.
- AM-02 The tool acquires digital source DS.
- AM-03 The tool executes in execution environment XE.
- AM-04 If clone creation is specified, the tool creates a clone of the digital source.
- AM-06 All visible sectors are acquired from the digital source.
- AM-08 All sectors acquired from the digital source are acquired accurately.
- AO-11 If requested, a clone is created during an acquisition of a digital source.
- AO-13 A clone is created using access interface DST-AI to write to the clone device.
- AO-14 If an unaligned clone is created, each sector written to the clone is accurately written to the same disk address on the clone that the sector occupied on the digital source.
- AO-17 If requested, any excess sectors on a clone destination device are not modified.
- AO-22 If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source.
- AO-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
- AO-24 If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process.

Tester Name: brl
Test Host: Max
Test Date: Fri Apr 21 08:14:26 2006
Drives: src (44) dst (E6) other (none)
Test Case DA-02-NT

ILook IXimager Version 2.0, Feb 01 2006

Source

src hash: <E196D36E7B322C0EF83923112AD1800581742B6E>

Setup:

- 78165360 total sectors (4002064320 bytes)
- 65534/015/63 (max cyl/hd values)
- 65535/016/63 (number of cyl/hd)
- IDE disk: Model (WD WD400JB-00FMA0) serial # (WD-WMAJC1011319)
- N Start LBA Len Start C/H/S End C/H/S Boot Partition Type
  1 P 000000063 020980827 0000/001/01 023/254/63 0C Fat32X
  2 X 020980890 057175335 1023/000/01 1023/254/63 0F extended
  3 S 000000063 00032067 0203/001/01 023/254/63 01 Fat12
  4 X 000000063 02104515 0203/001/01 1023/254/63 05 extended
  5 S 000000063 02104452 0203/001/01 023/254/63 06 Fat16
  6 x 002136645 004192965 023/000/01 023/254/63 05 extended
  7 S 000000002 004192902 023/000/01 023/254/63 16 other
  8 x 006329610 008401995 023/000/01 023/254/63 05 extended
  9 S 000000006 08401932 023/001/01 023/254/63 0B Fat32
  10 x 014737605 01490445 023/000/01 023/254/63 05 extended
  11 S 000000006 01490382 023/001/01 023/254/63 83 Linux
  12 x 025222050 004209030 023/000/01 023/254/63 05 extended
  13 S 000000006 004208967 023/001/01 023/254/63 82 Linux swap
  14 x 029431080 027744255 023/001/01 1023/254/63 05 extended
  15 S 000000006 027744192 023/001/01 1023/254/63 07 NTFS
  16 S 000000000 000000000 0000/000/00 00 empty entry
  17 P 000000000 000000000 0000/000/00 00 empty entry
  18 P 000000000 000000000 0000/000/00 00 empty entry

- 020980827 sectors 10742183424 bytes
- 00032067 sectors 16418304 bytes
- 002104452 sectors 1077497424 bytes
- 004192902 sectors 2146765824 bytes
- 008401932 sectors 4301789184 bytes
- 01490382 sectors 5371075584 bytes
- 004208967 sectors 2154991104 bytes
- 027744192 sectors 14205026304 bytes

Log

Highlights:

IXImager Log file
SCSI device sdb: 35843670 512-byte hdwr sectors (18352 MB)
SCSI device sdc: 78165360 512-byte hdwr sectors (40021 MB)
SCSI device sdd: 35843670 512-byte hdwr sectors (18352 MB)
Initializing...
Opened input device '/dev/sdc1'
Opened output device '/dev/sdb'
Beginning Clone operation for 14205026304 bytes
Beginning Clone operation
Beginning Clone operation
Clone Complete
Clone was completed successfully.

Read: 14.21 GB (14205026304 bytes)
Written: 14.21 GB (14205026304 bytes)
Total Processed: 14.21 GB (14205026304 bytes)
Clone Speed: 20.09 MB/sec
Elapsed Time: 0h 11m 47s
Bad Sectors: 0
Clearing computer memory...

Hashes of src and dst partitions
Src SHA1 Hash: BD600A5EC643643D285C6C1C8A77D7A332B052D23
Dest SHA1 Hash: BD600A5EC643643D285C6C1C8A77D7A332B052D23

Source SHA1 Hash: E196D36E7B322C0EF83923112AD1800581742B6E

Results:

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<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-04 A clone is created</td>
<td>as expected</td>
</tr>
<tr>
<td>AM-05 All visible sectors acquired.</td>
<td>as expected</td>
</tr>
<tr>
<td>AM-06 All sectors accurately acquired.</td>
<td>as expected</td>
</tr>
<tr>
<td>AO-11 A clone is created during acquisition.</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>
</tbody>
</table>
Test Case DA-02-NT
ILook IXimager Version 2.0, Feb 01 2006

AO-17 Excess sectors are unchanged. 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. as expected

Analysis: Expected results achieved

5.2.16 DA-02-SWAP

Test Case DA-02-SWAP
ILook IXimager Version 2.0, Feb 01 2006

Description: DA-02 Acquire a digital source of type DS to an unaligned clone.

Assertions:
AM-01 The tool uses access interface SRC-AI to access the digital source.
AM-02 The tool acquires digital source DS.
AM-03 The tool executes in execution environment XE.
AM-04 If clone creation is specified, the tool creates a clone of the digital source.
AM-06 All visible sectors are acquired from the digital source.
AM-08 All sectors acquired from the digital source are acquired accurately.
AO-11 If requested, a clone is created during an acquisition of a digital source.
AO-13 A clone is created using access interface DST-AI to write to the clone device.
AO-14 If an unaligned clone is created, each sector written to the clone is accurately written to the same disk address on the clone that the sector occupied on the digital source.
AO-17 If requested, any excess sectors on a clone destination device are not modified.
AO-22 If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source.
AO-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
AO-24 If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process.

Tester Name: brl
Test Host: Joe
Test Date: Thu Apr 20 16:26:03 2006
Drives: src(43) dst (2F) other (none)

Source
src hash: < 888E2E7F/ADD237DC7A7322B17DD93F325065E5871 >
Setup:
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 0000/01/01 1023/254/63 0C Fat32X
2 X 020980890 057143205 1023/000/01 1023/254/63 0F extended
3 S 000000063 00032067 1023/000/01 1023/254/63 01 Fat12
4 X 000032130 002104515 1023/000/01 1023/254/63 05 extended
5 S 000000063 002104452 1023/000/01 1023/254/63 06 Fat16
6 x 002136645 004192902 1023/000/01 1023/254/63 16 other
7 S 000000063 004192902 1023/000/01 1023/254/63 0B Fat32
8 x 006329610 008401995 1023/000/01 1023/254/63 05 extended
9 S 000000063 00401932 1023/000/01 1023/254/63 0B Fat32
10 x 014731605 010490445 1023/000/01 1023/254/63 05 extended
11 S 000000006 010490382 1023/000/01 1023/254/63 83 Linux
12 x 025222050 004209030 1023/000/01 1023/254/63 05 extended
13 S 000000006 004208967 1023/000/01 1023/254/63 82 Linux swap
14 x 029431080 027712125 1023/000/01 1023/254/63 05 extended
15 S 000000006 027712062 1023/000/01 1023/254/63 07 NTFS
16 S 000000000 00000000 0000/00/00 0000/00/00 00 empty entry
17 P 000000000 00000000 0000/00/00 0000/00/00 00 empty entry
18 P 000000000 00000000 0000/00/00 0000/00/00 00 empty entry
1 020980827 sectors 10742183424 bytes
3 00032067 sectors 16418304 bytes
S 02104452 sectors 1077479424 bytes
7 004208967 sectors 2154991104 bytes
9 008401932 sectors 4301789184 bytes
11 010490382 sectors 5371075584 bytes
13 004208967 sectors 2154991104 bytes
15 027712062 sectors 14188575744 bytes

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Test Case DA-02-SWAP ILook IXimager Version 2.0, Feb 01 2006

Log Highlights:
- IXImager Log file
  SCSI device sdb: 17783249 512-byte hdwr sectors (9105 MB)
  SCSI device sdc: 78125000 512-byte hdwr sectors (40000 MB)
- Initializing...
- Opened input device '/dev/sdc10'
- Opened output device '/dev/sdb'
- Beginning Clone operation for 2154991104 bytes
- Beginning Clone operation
- Beginning Clone operation
- Clone Complete
- Clone was completed successfully.
  
  Read : 2.155 GB (2154991104 bytes)
  Written : 2.155 GB (2154991104 bytes)
  Total Processed: 2.155 GB (2154991104 bytes)
  Clone Speed : 13.39 MB/sec
  Elapsed Time : 0h 2m 41s
  Bad Sectors : 0
  Clearing computer memory...

  Hashes of src and dst partitions
  Src SHA1 Hash: F5B062CC31DA088DF7FAF8F7A47E500BF4244BCF -
  Dst SHA1 Hash: F5B062CC31DA088DF7FAF8F7A47E500BF4244BCF -
  Source SHA1 Hash: 888E2E7FFAD237DC7A732281DD93F325065E5871

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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-04 A clone is created.</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-11 A clone is created during acquisition.</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-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>as expected</td>
</tr>
</tbody>
</table>

Analysis: Expected results achieved

5.2.17 DA-02-THUMB

Test Case DA-02-THUMB ILook IXimager Version 2.0, Feb 01 2006

Description: DA-02 Acquire a digital source of type DS to an unaligned clone.

Assertions:
- AM-01 The tool uses access interface SRC-AI to access the digital source.
- AM-02 The tool acquires digital source DS.
- AM-03 The tool executes in execution environment XE.
- AM-04 If clone creation is specified, the tool creates a clone of the digital source.
- AM-06 All visible sectors are acquired from the digital source.
- AM-08 All sectors acquired from the digital source are acquired accurately.
- AO-11 If requested, a clone is created during an acquisition of a digital source.
- AO-13 A clone is created using access interface DST-AI to write to the clone device.
- AO-14 If an unaligned clone is created, each sector written to the clone is accurately written to the same disk address on the clone that the sector occupied on the digital source.
- AO-17 If requested, any excess sectors on a clone destination device are not modified.
- AO-22 If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source.
- AO-23 If the tool logs any log significant information, the information is
Test Case DA-02-THUMB ILook IXimager Version 2.0, Feb 01 2006

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: JohnSteed
Test Date: Tue May 9 16:48:45 2006
Drives: src (D2-THUMB) dst (D3-THUMB) other (none)

Source
Setup: 253400 total sectors (129740800 bytes)
Model (TS128MJFLASHA ) serial # ()
Removable media, no partition table.

Log
Highlights: Comparision of original to clone
Sectors compared: 253400
Sectors match: 253400
Sectors differ: 0
Bytes differ: 0
Diffs range 0 source read errors, 0 destination read errors

IXImager Log file
hda: 156301488 sectors (80026 MB) w/8192KiB Cache, CHS=9729/255/63,
UDMA(100)
SCSI device sda: 253400 512-byte hdwr sectors (130 MB)
SCSI device sdb: 253400 512-byte hdwr sectors (130 MB)
SCSI device sdc: 253400 512-byte hdwr sectors (130 MB)
Initializing...
Opened input device '/dev/sda'
Opened output device '/dev/sdb'
Beginning Clone operation for 129740800 bytes
Beginning Clone operation
Clone Complete
Clone was completed successfully.
Read : 129.7 MB (129740800 bytes)
Written: 129.7 MB (129740800 bytes)
Total Processed: 129.7 MB (129740800 bytes)
Elapsed Time : 0h 3m 18s
Bad Sectors : 0
Clearing computer memory...

Source SHA1 Hash: 712C9F59F598745977E419F235FB1CE8F4EC7BA

Results:

```
<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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-04 A clone is created.</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-11 A clone is created during acquisition.</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-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>as expected</td>
</tr>
</tbody>
</table>
```

Analysis: Expected results achieved

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## Test Case DA-02-ZIP
### Description:
DA-02 Acquire a digital source of type DS to an unaligned clone.

### Assertions:
- **AM-01** The tool uses access interface SRC-AI to access the digital source.
- **AM-02** The tool acquires digital source DS.
- **AM-03** The tool executes in execution environment XE.
- **AM-04** If clone creation is specified, the tool creates a clone of the digital source.
- **AM-06** All visible sectors are acquired from the digital source.
- **AM-08** All sectors acquired from the digital source are acquired accurately.
- **AO-11** If requested, a clone is created during an acquisition of a digital source.
- **AO-12** A clone is created using access interface DST-AI to write to the clone device.
- **AO-13** 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-15** If requested, any excess sectors on a clone destination device are not modified.
- **AO-22** If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source.
- **AO-23** If the tool logs any log significant information, the information is accurately recorded in the log file.
- **AO-24** If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process.

### Tester Name:
brl

### Test Host:
Nick

### Test Date:
Thu May 11 10:18:03 2006

### Drives:
src (E2-ZIP) dst (E1-ZIP) other (none)

### Source Setup:
- hash: `<AFB348B060C6FAD1026B709481064E91AE5D7>`
- total sectors: 196608 (100663296 bytes)
- Model (ZIP 250 ) serial # ()
- Removable media, no partition table.

### Log Highlights:
Comparison of original to clone
- Sectors compared: 196608
- Sectors match: 196608
- Sectors differ: 0
- Bytes differ: 0
- Sectors range:
  - Source (196608) has 292864 fewer sectors than destination (489472)
  - Zero fill: 0
  - Src Byte fill (E2): 0
  - Dst Byte fill (E1): 292864
  - Other fill: 0
  - Other no fill: 0
  - Zero fill range:
  - Src fill range:
  - Dst fill range: 196608-489471
  - Other fill range:
  - Other not filled range:
- 0 source read errors, 0 destination read errors

### IXImager Log file
- **hda**: 156250000 sectors (80000 MB) w/1821KiB Cache, CHS=9726/255/63, UDMA(100)
- **SCSI device sda**: 196608 512-byte hdwr sectors (101 MB)

Opening...Opened input device '/dev/sda'Opened output device '/dev/hdb'Beginning Clone operation for 100663296 bytesBeginning Clone operationBeginning Clone operationClone CompleteClone was completed successfully.

- Read: 100.7 MB (100663296 bytes)
- Written: 100.7 MB (100663296 bytes)
Test Case DA-02-ZIP

ILook IXimager Version 2.0, Feb 01 2006

Total Processed: 100.7 MB (100663296 bytes)
Clone Speed : 756.9 kB/sec
Elapsed Time : 0h 2m 13s
Bad Sectors : 0
Clearing computer memory...

Source SHA1 Hash: AFEA648306C6FAD1026B7094810674E91AEA5D7

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM-01 Source acquired using interface AI.  as expected</td>
<td>as expected</td>
</tr>
<tr>
<td>AM-02 Source is type DS.  as expected</td>
<td></td>
</tr>
<tr>
<td>AM-03 Execution environment is XE.  as expected</td>
<td>as expected</td>
</tr>
<tr>
<td>AM-04 A clone is created.  as expected</td>
<td>as expected</td>
</tr>
<tr>
<td>AM-06 All visible sectors acquired.  as expected</td>
<td></td>
</tr>
<tr>
<td>AM-08 All sectors accurately acquired.  as expected</td>
<td></td>
</tr>
<tr>
<td>AO-11 A clone is created during acquisition.  as expected</td>
<td></td>
</tr>
<tr>
<td>AO-13 Clone created using interface AI.  as expected</td>
<td>as expected</td>
</tr>
<tr>
<td>AO-14 An unaligned clone is created.  as expected</td>
<td></td>
</tr>
<tr>
<td>AO-17 Excess sectors are unchanged.  as expected</td>
<td></td>
</tr>
<tr>
<td>AO-22 Tool calculates hashes by block.  option not available</td>
<td></td>
</tr>
<tr>
<td>AO-23 Logged information is correct.  as expected</td>
<td>as expected</td>
</tr>
<tr>
<td>AO-24 Source is unchanged by acquisition.  as expected</td>
<td></td>
</tr>
</tbody>
</table>

Analysis: Expected results achieved

5.2.19 DA-04

Test Case DA-04

ILook IXimager Version 2.0, Feb 01 2006

Description: DA-04 Acquire a physical device to a truncated clone.

Assertions:

<table>
<thead>
<tr>
<th>Assertion</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM-01</td>
<td>The tool uses access interface SRC-AI to access the digital source.</td>
</tr>
<tr>
<td>AM-02</td>
<td>The tool acquires digital source DS.</td>
</tr>
<tr>
<td>AM-03</td>
<td>The tool executes in execution environment XE.</td>
</tr>
<tr>
<td>AM-04</td>
<td>If clone creation is specified, the tool creates a clone of the digital source.</td>
</tr>
<tr>
<td>AM-06</td>
<td>All visible sectors are acquired from the digital source.</td>
</tr>
<tr>
<td>AM-08</td>
<td>All sectors acquired from the digital source are acquired accurately.</td>
</tr>
<tr>
<td>AO-11</td>
<td>If requested, a clone is created during an acquisition of a digital source.</td>
</tr>
<tr>
<td>AO-13</td>
<td>A clone is created using access interface DST-AI to write to the clone device.</td>
</tr>
<tr>
<td>AO-14</td>
<td>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.</td>
</tr>
<tr>
<td>AO-19</td>
<td>If there is insufficient space to create a complete clone, a truncated clone is created using all available sectors of the clone device.</td>
</tr>
<tr>
<td>AO-20</td>
<td>If a truncated clone is created, the tool notifies the user.</td>
</tr>
<tr>
<td>AO-22</td>
<td>If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source.</td>
</tr>
<tr>
<td>AO-23</td>
<td>If the tool logs any log significant information, the information is accurately recorded in the log file.</td>
</tr>
<tr>
<td>AO-24</td>
<td>If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process.</td>
</tr>
</tbody>
</table>

Tester Name: brl
Test Host: Max
Test Date: Wed May 3 14:43:49 2006
Drives: src(41) dst (5A) other (none)

Source hash: < 15CAA1A307271160D8372668BF8A03FC45A51CC9 >

Source:

78125000 total sectors (40000000000 bytes)
65534/015/63 (max cyl/hd values)
65535/016/63 (number of cyl/hd)
IDE disk: Model (WD WD400BB-75JHC0) serial # (WD-WMAMC4658355)
N Start LBA Length Start C/H/S End C/H/S boot Partition type
1 P 0000000063 078107967 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 078107967 sectors 39991279304 bytes

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Test Case DA-04 ILook IXimager Version 2.0, Feb 01 2006

Log Highlights:
Comparision of original to clone
Sectors compared: 12692736
Sectors match: 12692736
Sectors differ: 0
Bytes differ: 0
Diffs range
Source (78125000) has 65432264 more sectors than destination (12692736)
0 source read errors, 0 destination read errors

IXImager Log file
hda: 12692736 sectors (6498 MB) w/468KiB Cache, CHS=13431/15/63, UDMA(33)
hdb: 78125000 sectors (40000 MB) w/2048KiB Cache, CHS=65535/16/63, UDMA(100)
Initializing...
Opened input device '/dev/hdb'
Opened output device '/dev/hda'
Beginning Clone operation for 4000000000 bytes
Beginning Clone operation
Beginning Clone operation
Your target device has run out of free space!
Clone Aborted
Clone was aborted.

Read : 6.507 GB (6506938368 bytes)
Written : 6.499 GB (6498549760 bytes)
Total Processed: 6.507 GB (6506938368 bytes)
Expected Size : 40.00 GB (40000000000 bytes)
Clone Speed : 53.30 kB/sec
Elapsed Time : 33h 54m 35s
Bad Sectors : 0
Clearing computer memory...

Source SHA1 Hash: 15CAA1A307271160D8372668BF8A03FC45A51CC9

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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-04 A clone is created.</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-11 A clone is created during acquisition.</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-19 Truncated clone is created.</td>
<td>as expected</td>
</tr>
<tr>
<td>AO-20 User notified that clone is truncated.</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>as expected</td>
</tr>
</tbody>
</table>

Analysis: Expected results achieved

5.2.20 DA-06-ATA28

Test Case DA-06-ATA28 ILook IXimager Version 2.0, Feb 01 2006

Description: 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
<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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>as expected</td>
</tr>
</tbody>
</table>
5.2.21 DA-06-ATA48

Test Case DA-06-ATA48 ILook IXimager Version 2.0, Feb 01 2006

Description: DA-06 Acquire a physical device using access interface AI to an image file.

Assertions:

AM-01 The tool uses access interface SRC-AI to access the digital source.
AM-02 The tool acquires digital source DS.
AM-03 The tool executes in execution environment XE.
AM-05 If image file creation is specified, the tool creates an image file on file system type FS.
AM-06 All visible sectors are acquired from the digital source.
AM-08 All sectors acquired from the digital source are acquired accurately.
AO-01 If the tool creates an image file, the data represented by the image file is the same as the data acquired by the tool.
AO-05 If the tool creates a multi-file image of a requested size then all the individual files shall be no larger than the requested size.
AO-22 If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source.
AO-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
AO-24 If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process.

Tester Name: brl
Test Host: Max
Test Date: Wed Apr 5 12:20:40 2006
Drives: src(4C) dst (4D-FU2) other (none)

Source
src hash: < 8FF620D28DCCAF8412D6AD56C8554F872EFBF >
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 000000000 3907070737 0000/001/01 1023/254/63 Boot 07 NTFS
2 000000000 000000000 0000/000/00 0000/000/00 00 empty entry
3 000000000 000000000 0000/000/00 0000/000/00 00 empty entry
4 000000000 000000000 0000/000/00 0000/000/00 00 empty entry
1 390700737 sectors 200038777344 bytes

Log
Highlights: IXimager Log file
hda: 390721968 sectors (200049 MB) w/8192KiB Cache, CHS=24321/255/63,
UDMA(100)
SCSI device sdb: 781443888 512-byte hdwr sectors (400099 MB)
User selected ILook Default Image Format
Initializing...
Opened output file '/ILookImager/ILook.015/ATAB3001.asb'
Beginning Image operation for 200049647616 bytes
Beginning Image operation
Beginning Image operation
Opened output file '/ILookImager/ILook.015/ATAB3002.asb'
continuing at byte 1274740736
Image is being stored to /ILook.015/ATAB3002.asb
Opened output file '/ILookImager/ILook.015/ATAB3003.asb'
continuing at byte 22620078080
Image is being stored to /ILook.015/ATAB3003.asb
Opened output file '/ILookImager/ILook.015/ATAB3004.asb'
continuing at byte 50723815424
Image is being stored to /ILook.015/ATAB3004.asb
Opened output file '/ILookImager/ILook.015/ATAB3005.asb'
continuing at byte 788889615360
Image is being stored to /ILook.015/ATAB3005.asb
Opened output file '/ILookImager/ILook.015/ATAB3006.asb'
continuing at byte 107052662784
Image is being stored to /ILook.015/ATAB3006.asb
Opened output file '/ILookImager/ILook.015/ATAB3007.asb'
continuing at byte 135218331648
Image is being stored to /ILook.015/ATAB3007.asb
Opened output file '/ILookImager/ILook.015/ATAB3008.asb'
continuing at byte 163384066048

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Test Case DA-06-ATA48 ILook IXimager Version 2.0, Feb 01 2006

Image is being stored to /ILook.015/ATAB3008.asb
Opened output file '/ILookImager/ILook.015/ATAB3009.asb'
continuing at byte 191549800448
Image is being stored to /ILook.015/ATAB3009.asb
Image Complete
Image was completed successfully.

Read : 200.0 GB (200049647616 bytes)
Written : 5.380 GB (5379855567 bytes)
Total Processed: 200.0 GB (200049647616 bytes)
Image Speed : 26.17 MB/sec
Elapsed Time : 2h 7m 23s
Compression : 97.31%
Bad Sectors : 0
SHA-1 Value : 8ff620d2bedccafe8412edaad56c8554f872efbf
: for 200049647616 bytes
Clearing computer memory...

Source SHA1 Hash: 8FF620D2BEDCCAFE8412EDAAD56C8554F872EFBF

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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 XB.</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>as expected</td>
</tr>
</tbody>
</table>

Analysis: Expected results achieved

5.2.22 DA-06-FIREWIRE

Test Case DA-06-FIREWIRE ILook IXimager Version 2.0, Feb 01 2006

Description: 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-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: JohnSteed
Test Date: Tue Apr 4 09:26:17 2006

Drives: src(83-FU2) dst (4D-FU2) other (none)

Source hash: < 9BD0DFEAF3023476FA5D24436C0CEFCB5S85EB8695 >
160836480 total sectors (8234827760 bytes)
10010/254/63 (max cyl/hd values)
10011/255/63 (number of cyl/hd)
Model (HDS722580VLAT20 ) serial # ()

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Log

Highlights:

IXImager Log file
hdac: 156301488 sectors (80026 MB) w/8192KiB Cache, CHS=9729/255/63,
UDMA(100)
SCSI device sda: 781443888 512-byte hdwr sectors (400099 MB)
SCSI device sdb: 160836480 512-byte hdwr sectors (82348 MB)
User selected ILook Default Image Format
Initializing...
Opened output file '/ILookImager/ILook.009/DA06FIREWIRE001.asb'
Beginning Image operation for 82348277760 bytes
Beginning Image operation
Beginning Image operation
Opened output file '/ILookImager/ILook.009/DA06FIREWIRE002.asb'
continuing at byte 28174450688
Image is being stored to /ILook.009/DA06FIREWIRE002.asb
Opened output file '/ILookImager/ILook.009/DA06FIREWIRE003.asb'
continuing at byte 56342872064
Image is being stored to /ILook.009/DA06FIREWIRE003.asb
Image Complete
Image was completed successfully.
Read : 82.35 GB (82348277760 bytes)
Written : 1.894 GB (1894487827 bytes)
Total Processed: 82.35 GB (82348277760 bytes)
Image Speed : 7.943 MB/sec
Elapsed Time : 2h 52m 48s
Compression : 97.70%
Bad Sectors : 0
SHA-1 Value : 9b0d0fe3023476fa5d24436c0cefcb585eb8695
for 82348277760 bytes
Clearing computer memory...
Source SHA1 Hash: 9B0D0FEA3023476FA5D24436C0CEFBCB585EB8695

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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>as expected</td>
</tr>
</tbody>
</table>

Analysis: Expected results achieved

5.2.23 DA-06-SATA28

Test Case DA-06-SATA28 IXImager Version 2.0, Feb 01 2006

Description: DA-06 Acquire a physical device using access interface AI to an image file.

Assertions:

AM-01 The tool uses access interface SRC-AI to access the digital source.
AM-02 The tool acquires digital source DS.
AM-03 The tool executes in execution environment XE.
AM-05 If image file creation is specified, the tool creates an image file on file system type FS.
AM-06 All visible sectors are acquired from the digital source.
AM-08 All sectors acquired from the digital source are acquired accurately.
AO-01 If the tool creates an image file, the data represented by the image file is the same as the data acquired by the tool.
AO-05 If the tool creates a multi-file image of a requested size then all the individual files shall be no larger than the requested size.
AO-22 If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source.
AO-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
AO-24 If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process.

**Tester Name:** brl  
**Test Host:** Joe  
**Test Date:** Thu Mar 30 14:04:53 2006  
**Drives:**  
- src (07)  
- dst (4D-FU2)  
- other (none)

**Source Setup:**
- src hash: <655E9BDDB36A3F9C5C4CC8BF32B8C5B61AF9F52E>  
- Model (WDC WD800JD-32HJ) serial # (WD-WMAJ9151004)

**N Start LBA**  
<table>
<thead>
<tr>
<th>Start C/H/S</th>
<th>Length Start C/H/S</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>00000000</td>
<td>156280257</td>
<td>0000/001/01</td>
</tr>
<tr>
<td>00000000</td>
<td>00000000</td>
<td>0000/000/00</td>
</tr>
<tr>
<td>00000000</td>
<td>00000000</td>
<td>0000/000/00</td>
</tr>
<tr>
<td>00000000</td>
<td>00000000</td>
<td>0000/000/00</td>
</tr>
</tbody>
</table>

- 1  
  
156280257 sectors 80015491584 bytes

**Log Highlights:**
- IXImager Log file
  - ata1: dev 0 ATA-6, max UDMA/133, 156301488 sectors: LBA
  - SCSI device sdb: 156301488 512-byte hdwr sectors (80026 MB)
  - SCSI device sdc: 781443888 512-byte hdwr sectors (400099 MB)
- User selected ILook Default Image Format
- Initializing...
- Opened output file '/ILookImager/ILook.007/DA06SATA48001.asb'
- Beginning Image operation for 80026361856 bytes
- Beginning Image operation
- Initialize Image operation
- Opened output file '/ILookImager/ILook.007/DA06SATA48002.asb'
- continuing at byte 1286864896
- Image is being stored to /ILook.007/DA06SATA48002.asb
- Opened output file '/ILookImager/ILook.007/DA06SATA48003.asb'
- continuing at byte 22481928192
- Image is being stored to /ILook.007/DA06SATA48003.asb
- Opened output file '/ILookImager/ILook.007/DA06SATA48004.asb'
- continuing at byte 50646089728
- Image is being stored to /ILook.007/DA06SATA48004.asb
- Opened output file '/ILookImager/ILook.007/DA06SATA48005.asb'
- continuing at byte 7881228080
- Image is being stored to /ILook.007/DA06SATA48005.asb
- Image Complete
- Image was completed successfully.

- Read: 80.03 GB (80026361856 bytes)
- Written: 2.620 GB (2620183743 bytes)
- Total Processed: 80.03 GB (80026361856 bytes)
- Image Speed: 25.82 MB/sec
- Elapsed Time: 0h 51m 40s
- Compression: 96.73%
- Bad Sectors: 0
- SHA-1 Value: 655E9BDDB36A3F9C5C4CC8BF32B8C5B61AF9F52E
- for 80026361856 bytes

**Clearing computer memory...**

**Source SHA1 Hash:** 655E9BDDB36A3F9C5C4CC8BF32B8C5B61AF9F52E

**Results:**

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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>as expected</td>
</tr>
</tbody>
</table>

**Analysis:** Expected results achieved
Test Case DA-06-SATA48 ILook IXImager Version 2.0, Feb 01 2006

Description: DA-06 Acquire a physical device using access interface AI to an image file.

Assertions:
- AM-01 The tool uses access interface SRC-AI to access the digital source.
- AM-02 The tool acquires digital source DS.
- AM-03 The tool executes in execution environment XE.
- AM-05 If image file creation is specified, the tool creates an image file on file system type FS.
- AM-06 All visible sectors are acquired from the digital source.
- AM-08 All sectors acquired from the digital source are acquired accurately.
- AO-01 If the tool creates an image file, the data represented by the image file is the same as the data acquired by the tool.
- AO-05 If the tool creates a multi-file image of a requested size then all the individual files shall be no larger than the requested size.
- AO-22 If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source.
- AO-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
- AO-24 If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process.

Tester Name: brl
Test Host: Joe
Test Date: Wed Apr 5 09:51:02 2006

Drives:
- src(16) dst (4D-FU2) other (none)

Source:
- src hash: < F82982A9C63133988C1D2B4DA7C9C25CCA2D777A5 >
- 312581808 total sectors (160041885696 bytes)
- 19456/254/63 (max cyl/hd values)
- 13456/256/63 (number of cyl/hd)
- Model (WD WD1600JD-00G) serial # (WD-WMAES2058252)

N  Start LBA Length  Start C/H/S End C/H/S boot Partition type
1  0 000000000 312560577 0000/001/01 1023/254/63 Boot 07 NTFS
2  0 000000000 000000000 0000/000/00 0000/000/00 00 empty entry
3  0 000000000 000000000 0000/000/00 0000/000/00 00 empty entry
4  0 000000000 000000000 0000/000/00 0000/000/00 00 empty entry

1 312560577 sectors 160031015424 bytes

Log Highlights:
- IXImager Log file
- ata2: dev 0 ATA-6, max UDMA/100, 312581808 sectors: LBA48
- SCSI device sdb: 312581808 512-byte hdwr sectors (160042 MB)
- User selected ILook Default Image Format
- Initializing...
- Opened output file '/ILookImager/ILook.010/DA06SATA48001.asb'
- Beginning Image operation for 160041885696 bytes
- Image was completed successfully.

Read : 160.0 GB (160041885696 bytes)
Written : 4.459 GB (4459320703 bytes)
### Test Case DA-06-SATA48

**ILook IXimager Version 2.0, Feb 01 2006**

- **Total Processed**: 160.0 GB (160041885696 bytes)
- **Image Speed**: 22.83 MB/sec
- **Elapsed Time**: 1h 56m 50s
- **Compression**: 97.21%
- **Bad Sectors**: 0
- **SHA-1 Value**: f82982a9c63133988c1d2b4da7c9c25cca2d77a5 for 160041885696 bytes

Clearing computer memory...

Source SHA1 Hash: F82982A9C63133988C1D2B4DA7C9C25CCA2D77A5

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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>as expected</td>
</tr>
</tbody>
</table>

Analysis: Expected results achieved

---

### Test Case DA-06-SCSI

**ILook IXimager Version 2.0, Feb 01 2006**

**Description:** 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.
- **AM-08** All sectors 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.

<table>
<thead>
<tr>
<th>Tester Name</th>
<th>brl</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Host</td>
<td>Paladin</td>
</tr>
<tr>
<td>Test Date</td>
<td>Wed Mar 29 09:39:34 2006</td>
</tr>
<tr>
<td>Drives</td>
<td>src(2A) dat (4D-FU2) other (none)</td>
</tr>
</tbody>
</table>

**Source Setup:**
- src hash: f5f9f2930dcb2b95f36e270fb22a722e27918125 > 17781249 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:**
- IXImager Log file
- SCSI device sda: 17783249 512-byte hdwr sectors (9105 MB)
- SCSI device sdd: 78143888 512-byte hdwr sectors (400099 MB)
- User selected ILook Default Image Format
- Initializing...
Test Case DA-06-SCSI ILook IXimager Version 2.0, Feb 01 2006

Opened output file '/ILookImager/ILook.002/DA06SCSI001.asb'
Beginning Image operation for 9105023488 bytes
Beginning Image operation
Beginning Image operation
Image Complete
Image was completed successfully.

Read : 9.105 GB (9105023488 bytes)
Written: 606.9 MB  (606900616 bytes)
Total Processed: 9.105 GB (9105023488 bytes)
Image Speed : 11.66 MB/sec
Elapsed Time : 0h 13m 1s
Compression : 93.33%
Bad Sectors : 0
SHA-1 Value : f5f9f2903dcab895f36e2707fbd2b2a722e27918125
: for 9105023488 bytes
Clearing computer memory...

Source SHA1 Hash: F5F9F2903DCAB895F36E2707FBD2B2A722E27918125

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
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<tbody>
<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 XB.</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 acquired accurately.</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>as expected</td>
</tr>
</tbody>
</table>

Analysis: Expected results achieved

5.2.26 DA-06-USB

Test Case DA-06-USB ILook IXimager Version 2.0, Feb 01 2006

Description: DA-06 Acquire a physical device using access interface AI to an image file.

Assertions:
AM-01 The tool uses access interface SRC-AI to access the digital source.
AM-02 The tool acquires digital source DS.
AM-03 The tool executes in execution environment XE.
AM-05 If image file creation is specified, the tool creates an image file on file system type FS.
AM-06 All visible sectors are acquired from the digital source.
AM-08 All sectors acquired from the digital source are acquired accurately.
AO-01 If the tool creates an image file, the data represented by the image file is the same as the data acquired by the tool.
AO-05 If the tool creates a multi-file image of a requested size then all the individual files shall be no larger than the requested size.
AO-22 If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source.
AO-23 If the tool logs any log significant information, the information is accurately recorded in the log file.
AO-24 If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process.

Tester Name: brl
Test Host: JohnSteed
Test Date: Wed Mar 29 16:33:12 2006
Drives: src (63-FU2) dst (4D-FU2) other (none)
Source
src hash: < F7069EDCBEA863C88DECED82159F22DA96B99B >
117304992 total sectors (60060155904 bytes)
Model (SP0612N ) serial # ()
N Start LBA Length Start C/H/S End C/H/S boot Partition type
1 P 0000000063 004192902 0000/001/01 0260/254/63 Boot 06 Fat16
2 X 0000000063 0261/000/01 1023/254/63 0F extended
3 S 0000000063 113097537 0261/001/01 1023/254/63 0B Fat32

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4 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry
5 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry
6 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry
1 004192902 sectors 2146765824 bytes
3 113097537 sectors 57905938944 bytes

Log

Highlights: IXImager Log file
hda: 156301488 sectors (80026 MB) w/8192KiB Cache, CHS=9729/255/63, UDMA(100)
SCSI device sda: 117304992 512-byte hdwr sectors (60060 MB)
SCSI device sdb: 781443888 512-byte hdwr sectors (400099 MB)
User selected ILook Default Image Format
Initializing...
Opened output file '/ILookImager/ILook.004/DA06USB001.asb'
Beginning Image operation for 60060155904 bytes
Beginning Image operation
Beginning Image operation
Opened output file '/ILookImager/ILook.004/DA06USB002.asb'
continuing at byte 28180283392
Image is being stored to /ILook.004/DA06USB002.asb
Opened output file '/ILookImager/ILook.004/DA06USB003.asb'
continuing at byte 56343855104
Image is being stored to /ILook.004/DA06USB003.asb
Image Complete
Image was completed successfully.

Read : 60.06 GB (60060155904 bytes)
Written : 1.382 GB (1381727236 bytes)
Total Processed: 60.06 GB (60060155904 bytes)
Image Speed : 14.97 MB/sec
Elapsed Time : 1h 6m 53s
Compression : 97.70%
Bad Sectors : 0
SHA-1 Value : f7069edcbeac863c88decde82159f22da96be99b
: for 60060155904 bytes
Clearing computer memory...

Source SHA1 Hash: F7069EDCBEAC863C88DECD82159F22DA96BE99B

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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>as expected</td>
</tr>
</tbody>
</table>

Analysis: Expected results achieved

5.2.27 DA-07-CF

Test Case DA-07-CF ILook IXimager Version 2.0, Feb 01 2006

Description: 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

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<table>
<thead>
<tr>
<th>Test Case DA-07-CF</th>
<th>ILook IXimager Version 2.0, Feb 01 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description: DA-07 Acquire a digital source of type DS to an image file.</td>
<td></td>
</tr>
<tr>
<td>Assertions: AM-01 The tool uses access interface SRC-AI to access the digital source.</td>
<td>AM-02 The tool acquires digital source DS.</td>
</tr>
<tr>
<td>AM-03 Execution environment is XE.</td>
<td>AM-05 An image is created on file system type FS.</td>
</tr>
<tr>
<td>AM-06 All visible sectors acquired.</td>
<td>AM-08 All sectors accurately acquired.</td>
</tr>
<tr>
<td>AM-09 Image file is complete and accurate.</td>
<td>AM-05 Multifile image created.</td>
</tr>
<tr>
<td>AO-22 Tool calculates hashes by block.</td>
<td>AO-23 Log information is correct.</td>
</tr>
<tr>
<td>AO-24 Source is unchanged by acquisition.</td>
<td></td>
</tr>
</tbody>
</table>

Results: Expected results achieved
### Test Case DA-07-F12 ILook IXimager Version 2.0, Feb 01 2006

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: Joe
Test Date: Fri Apr 21 13:53:43 2006

<table>
<thead>
<tr>
<th>Drives:</th>
<th>src(43)</th>
<th>dst (4D-FU2)</th>
<th>other (none)</th>
</tr>
</thead>
</table>

Source: src
Setup: File size: 78125000 total sectors (40000000000 bytes)
Model (0BB-75JHC0) serial # (WD-WMAMC46588)

<table>
<thead>
<tr>
<th>N</th>
<th>Start LBA</th>
<th>Length</th>
<th>Start C/H/S</th>
<th>End C/H/S</th>
<th>boot</th>
<th>Partition type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>P</td>
<td>0000000063</td>
<td>01 020980827</td>
<td>0000/01/01</td>
<td>0254/63</td>
<td>OC Fat32X</td>
</tr>
<tr>
<td>2</td>
<td>X</td>
<td>020980890</td>
<td>057143205</td>
<td>1023/000/01</td>
<td>1023/254/63</td>
<td>0F extended</td>
</tr>
<tr>
<td>3</td>
<td>S</td>
<td>0000000063</td>
<td>00322067</td>
<td>1023/003/01</td>
<td>1023/254/63</td>
<td>01 Fat12</td>
</tr>
<tr>
<td>4</td>
<td>X</td>
<td>000032130</td>
<td>00104515</td>
<td>1023/000/01</td>
<td>1023/254/63</td>
<td>05 extended</td>
</tr>
<tr>
<td>5</td>
<td>S</td>
<td>0000000063</td>
<td>00104452</td>
<td>1023/000/01</td>
<td>1023/254/63</td>
<td>06 Fat16</td>
</tr>
<tr>
<td>6</td>
<td>X</td>
<td>002136645</td>
<td>04192965</td>
<td>1023/000/01</td>
<td>1023/254/63</td>
<td>05 extended</td>
</tr>
<tr>
<td>7</td>
<td>S</td>
<td>0000000063</td>
<td>04192902</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>16 other</td>
</tr>
<tr>
<td>8</td>
<td>X</td>
<td>006329610</td>
<td>08401995</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>05 extended</td>
</tr>
<tr>
<td>9</td>
<td>S</td>
<td>0000000063</td>
<td>08401932</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>0B Fat32</td>
</tr>
<tr>
<td>10</td>
<td>X</td>
<td>014731605</td>
<td>010490445</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>05 extended</td>
</tr>
<tr>
<td>11</td>
<td>S</td>
<td>0000000063</td>
<td>010490382</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>83 Linux</td>
</tr>
<tr>
<td>12</td>
<td>X</td>
<td>025222050</td>
<td>042093030</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>05 extended</td>
</tr>
<tr>
<td>13</td>
<td>S</td>
<td>0000000063</td>
<td>04208967</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>82 Linux swap</td>
</tr>
<tr>
<td>14</td>
<td>X</td>
<td>029431080</td>
<td>027712125</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>05 extended</td>
</tr>
<tr>
<td>15</td>
<td>S</td>
<td>0000000063</td>
<td>027712062</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>07 NTFS</td>
</tr>
<tr>
<td>16</td>
<td>S</td>
<td>0000000000</td>
<td>00000000</td>
<td>0000/00/00</td>
<td>0000/00/00</td>
<td>00 empty entry</td>
</tr>
<tr>
<td>17</td>
<td>P</td>
<td>0000000000</td>
<td>00000000</td>
<td>0000/00/00</td>
<td>0000/00/00</td>
<td>00 empty entry</td>
</tr>
<tr>
<td>18</td>
<td>S</td>
<td>0000000000</td>
<td>00000000</td>
<td>0000/00/00</td>
<td>0000/00/00</td>
<td>00 empty entry</td>
</tr>
<tr>
<td>19</td>
<td>P</td>
<td>0000000000</td>
<td>00000000</td>
<td>0000/00/00</td>
<td>0000/00/00</td>
<td>00 empty entry</td>
</tr>
<tr>
<td>20</td>
<td>S</td>
<td>0000000000</td>
<td>00000000</td>
<td>0000/00/00</td>
<td>0000/00/00</td>
<td>00 empty entry</td>
</tr>
<tr>
<td>21</td>
<td>P</td>
<td>0000000000</td>
<td>00000000</td>
<td>0000/00/00</td>
<td>0000/00/00</td>
<td>00 empty entry</td>
</tr>
</tbody>
</table>

Log Highlights: IXImager Log file
SCSI device sdb: 78125000 512-byte hdwr sectors (40000 MB)
SCSI device sdc: 78144388 512-byte hdwr sectors (400099 MB)
User selected ILook Default Image Format
Initializing...
opened output file '/ILookImager/ILook.012/DA07F12001.asb'
Beginning Image operation for 16418304 bytes
Beginning Image operation
Beginning Image operation
Image Complete
Image was completed successfully.

Read : 16.42 MB (16418304 bytes)
Written : 591.0 kB (593021 bytes)
Total Processed: 16.42 MB (16418304 bytes)
Image Speed : 8.209 MB/sec
Elapsed Time : 0h 0m 2s
Compression : 96.39%
Bad Sectors : 0
SHA-1 Value : 6853b517f50bf3ccaded3db5f6aae08c18c62fca0

Clearing computer memory...
Test Case DA-07-F12 ILook IXimager Version 2.0, Feb 01 2006

Source SHA1 Hash: 888E2E7F7AD237DC7A732281DD93F325065E5871

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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>as expected</td>
</tr>
</tbody>
</table>

Analysis: Expected results achieved

5.2.29 DA-07-F16

Test Case DA-07-F16 ILook IXimager Version 2.0, Feb 01 2006

Description: 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: Max

Test Date: Fri Apr 21 14:01:44 2006

Drives: src(44) dst (4D-FU2) other (none)

Source

src hash: < E196D36E7B322C0EF83923112AD1800581742B6E >

IDE disk: Model (WDC WD400JB-00FMA0) serial # (WD-WMAJc1011119)

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 00320667 1023/001/01 1023/254/63 01 Fat12
4 X 000032130 021045315 1023/000/01 1023/254/63 05 extended
5 S 000000063 02104452 1023/001/01 1023/254/63 06 Fat16
6 X 002136645 004192902 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 1023/000/01 1023/254/63 0B Fat32
10 X 014731605 010490445 1023/000/01 1023/254/63 05 extended
11 P 000000063 01490382 1023/001/01 1023/254/63 83 Linux
12 X 025222050 004209030 1023/000/01 1023/254/63 05 extended
13 S 000000063 04209697 1023/001/01 1023/254/63 82 Linux swap
14 X 029431080 027742525 1023/000/01 1023/254/63 05 extended
15 S 000000063 0277424192 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

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Test Case DA-07-F16 ILook IXimager Version 2.0, Feb 01 2006

1 020980827 sectors 10742183424 bytes
3 00032067 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: IXImager Log file
SCSI device sdb: 78165360 512-byte hdwr sectors (40021 MB)
SCSI device sdc: 781443888 512-byte hdwr sectors (400099 MB)
User selected ILook Default Image Format
Initializing...
Opened output file '/ILookImager/ILook.013/DA07F16001.asb'
Beginning Image operation for 1077479424 bytes
Beginning Image operation
Beginning Image operation
Image Complete
Image was completed successfully.
Read : 1.077 GB (1077479424 bytes)
Written : 24.93 MB (24932422 bytes)
Total Processed: 1.077 GB (1077479424 bytes)
Image Speed : 7.865 MB/sec
Elapsed Time : 0h 2m 17s
Compression : 97.69%
Bad Sectors : 0
SHA-1 Value : f26795072562849a38bb46c94aa54b7d1ca65660
: for 1077479424 bytes
Clearing computer memory...
Source SHA1 Hash: E196D36E7B322C0EF83923112AD1800581742B6E

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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>as expected</td>
</tr>
</tbody>
</table>

Analysis: Expected results achieved

5.2.30 DA-07-F32

Test Case DA-07-F32 ILook IXimager Version 2.0, Feb 01 2006

Description: 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 acquired. as expected
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

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Test Case DA-07-F32 ILook IXimager Version 2.0, Feb 01 2006

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: Joe
Test Date: Fri Apr 21 15:48:08 2006
Drives: src(43) dst (4D-FU2) other (none)

Source
src hash: < 888E2E7F7AD237DC7A732281DD93F325065E5871 >
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 0000000063 020980827 0000/001/01 1023/254/63 0F extended
2 X 020980890 057143205 1023/000/01 1023/254/63 0F extended
3 S 0000000003 0000326067 1023/000/01 1023/254/63 01 Fat12
4 X 000032130 020104515 1023/000/01 1023/254/63 05 extended
5 S 0000000003 020104452 1023/000/01 1023/254/63 06 Fat16
6 X 002136454 04192965 1023/000/01 1023/254/63 05 extended
7 S 0000000003 04192902 1023/000/01 1023/254/63 16 other
8 X 006329610 08401995 1023/000/01 1023/254/63 05 extended
9 S 0000000003 08401932 1023/000/01 1023/254/63 0B Fat32
10 X 014731605 01490445 1023/000/01 1023/254/63 05 extended
11 S 0000000003 01490382 1023/000/01 1023/254/63 83 Linux
12 X 025222050 04209030 1023/000/01 1023/254/63 05 extended
13 S 0000000003 04208967 1023/000/01 1023/254/63 82 Linux swap
14 X 029431080 027712125 1023/000/01 1023/254/63 05 extended
15 S 0000000003 027712062 1023/000/01 1023/254/63 07 NTFS
16 S 0000000000 00000000 0000/000/00 0000/000/00 00 empty entry
17 P 0000000000 00000000 0000/000/00 0000/000/00 00 empty entry
18 P 0000000000 00000000 0000/000/00 0000/000/00 00 empty entry

1 020980827 sectors 10742183424 bytes
3 00032067 sectors 16418304 bytes
5 002104452 sectors 1077479424 bytes
7 004192902 sectors 2146765824 bytes
9 008401932 sectors 4301789184 bytes
11 010490382 sectors 5371075584 bytes
13 00420967 sectors 2154991104 bytes
15 027712062 sectors 14188575744 bytes

Log
Highlights: IXImager Log file
SCSI device sdb: 78125000 512-byte hdwr sectors (400000 MB)
SCSI device sdc: 781443888 512-byte hdwr sectors (400099 MB)
User selected ILook Default Image Format
Initializing...
Opened output file '/ILookImager/ILook.014/DA07F32001.asb'
Beginning Image operation for 4301789184 bytes
Beginning Image operation
Beginning Image operation
Image Complete
Image was completed successfully.

Read : 4.302 GB (4301789184 bytes)
Written : 98.98 MB (98984710 bytes)
Total Processed: 4.302 GB (4301789184 bytes)
Image Speed : 7.922 MB/sec
Elapsed Time : 0h 9m 3s
Compression : 97.70%
Bad Sectors : 0
SHA-1 Value : 72462489bcf79a98b59b6a8cd938feb4efa2a781
 : for 4301789184 bytes
Clearing computer memory...

Source SHA1 Hash: 888E2E7F7AD237DC7A732281DD93F325065E5871

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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>
</tbody>
</table>

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Test Case DA-07-F32

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. as expected

Analysis: Expected results achieved

5.2.31 DA-07-F32X

Test Case DA-07-F32X ILook IXimager Version 2.0, Feb 01 2006

Description: 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: Max
Test Date: Fri Apr 21 15:51:32 2006
Drives: src(44) dst (4D-FU2) other (none)

Source
src hash: < E196D36E7B322C0EF83923112AD1800581742B6E >
78165360 total sectors (40020664320 bytes)
65534/015/63 (max cyl/hd values)
65535/016/63 (number of cyl/hd)
IDE disk: Model (WDC WD400JB-00FMA0) serial # (WD-WMAJC1011319)

<table>
<thead>
<tr>
<th>N</th>
<th>Start LBA</th>
<th>Length</th>
<th>Start C/H/S</th>
<th>End C/H/S</th>
<th>Boot</th>
<th>Partition type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>000000003</td>
<td>020980827</td>
<td>0000/001/01</td>
<td>1023/254/63</td>
<td>0C</td>
<td>Fat32X</td>
</tr>
<tr>
<td>2</td>
<td>020980890</td>
<td>057175335</td>
<td>1023/003/01</td>
<td>1023/254/63</td>
<td>0F</td>
<td>extended</td>
</tr>
<tr>
<td>3</td>
<td>000000003</td>
<td>000320673</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>01</td>
<td>Fat12</td>
</tr>
<tr>
<td>4</td>
<td>0000032130</td>
<td>002104515</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>05</td>
<td>extended</td>
</tr>
<tr>
<td>5</td>
<td>000000003</td>
<td>002104452</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>06</td>
<td>Fat16</td>
</tr>
<tr>
<td>6</td>
<td>002136645</td>
<td>041929656</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>05</td>
<td>extended</td>
</tr>
<tr>
<td>7</td>
<td>000000003</td>
<td>041929029</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>16</td>
<td>other</td>
</tr>
<tr>
<td>8</td>
<td>0006329610</td>
<td>084019953</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>05</td>
<td>extended</td>
</tr>
<tr>
<td>9</td>
<td>000000003</td>
<td>084019321</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>0B</td>
<td>Fat32</td>
</tr>
<tr>
<td>10</td>
<td>014731605</td>
<td>010490445</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>05</td>
<td>extended</td>
</tr>
<tr>
<td>11</td>
<td>000000003</td>
<td>01490382</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>83</td>
<td>Linux</td>
</tr>
<tr>
<td>12</td>
<td>025232050</td>
<td>042090300</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>05</td>
<td>extended</td>
</tr>
<tr>
<td>13</td>
<td>000000003</td>
<td>042089676</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>82</td>
<td>Linux swap</td>
</tr>
<tr>
<td>14</td>
<td>029431080</td>
<td>027744255</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>05</td>
<td>extended</td>
</tr>
<tr>
<td>15</td>
<td>000000003</td>
<td>027744192</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>07</td>
<td>NTFS</td>
</tr>
<tr>
<td>16</td>
<td>000000000</td>
<td>000000000</td>
<td>0000/000/00</td>
<td>0000/000/00</td>
<td>00</td>
<td>empty entry</td>
</tr>
<tr>
<td>17</td>
<td>000000000</td>
<td>000000000</td>
<td>0000/000/00</td>
<td>0000/000/00</td>
<td>00</td>
<td>empty entry</td>
</tr>
<tr>
<td>18</td>
<td>000000000</td>
<td>000000000</td>
<td>0000/000/00</td>
<td>0000/000/00</td>
<td>00</td>
<td>empty entry</td>
</tr>
<tr>
<td>19</td>
<td>020980827</td>
<td>10742183424</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>05</td>
<td>extended</td>
</tr>
<tr>
<td>20</td>
<td>00032067</td>
<td>164183304</td>
<td>0000/001/01</td>
<td>1023/254/63</td>
<td>05</td>
<td>extended</td>
</tr>
<tr>
<td>21</td>
<td>002104515</td>
<td>14205026304</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>05</td>
<td>extended</td>
</tr>
<tr>
<td>22</td>
<td>002104452</td>
<td>2154991104</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>05</td>
<td>extended</td>
</tr>
<tr>
<td>23</td>
<td>002136645</td>
<td>14205026304</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>05</td>
<td>extended</td>
</tr>
<tr>
<td>24</td>
<td>006329610</td>
<td>2154991104</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>05</td>
<td>extended</td>
</tr>
<tr>
<td>25</td>
<td>027744192</td>
<td>14205026304</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>05</td>
<td>extended</td>
</tr>
</tbody>
</table>

April 2007       53 of 116     Results of IXimager V2 02/01/06
Log

Highlights: IXImager Log file
SCSI device sdb: 78165360 512-byte hdwr sectors (40021 MB)
SCSI device sdc: 781443888 512-byte hdwr sectors (400099 MB)
User selected ILook Default Image Format
Initializing...
Opened output file '/ILookImager/ILook.015/DA07F32X001.asb'
Beginning Image operation for 10742183424 bytes
Beginning Image operation
Beginning Image operation
Image Complete
Image was completed successfully.

Read : 10.74 GB (10742183424 bytes)
Written : 247.0 MB (247043065 bytes)
Total Processed: 10.74 GB (10742183424 bytes)
Image Speed : 7.934 MB/sec
Elapsed Time : 0h 22m 34s
Compression : 97.70%
Bad Sectors : 0
SHA-1 Value : d190a47b60a17fe6912ca26be237e923ad592fae
: for 10742183424 bytes
Clearing computer memory...

Source SHA1 Hash: E196D367B322C0EF83923112AD1800581742B6E

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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>as expected</td>
</tr>
</tbody>
</table>

Analysis: Expected results achieved

5.2.32 DA-07-FLOPPY

Test Case DA-07-FLOPPY IXImager Version 2.0, Feb 01 2006

Description: 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: JohnSteed
Test Date: Wed May 3 09:40:50 2006
Drives: src(floppy) dst (4D-FU2) other (none)
Source src hash: < E2863334AC7EAABC7C8A0D62EB0D3B3AF29F2C40 >
5.2.33 DA-07-HIDDEN

Test Case DA-07-HIDDEN ILook IXImager Version 2.0, Feb 01 2006

Description: 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: Max
Test Date: Mon Apr 24 10:52:28 2006

Results of IXImager V2 02/01/06
Test Case DA-07-HIDDEN ILook IXimager Version 2.0, Feb 01 2006

Drives:

- src hash: <E196D36B7322C0EF83923112AD1800581742B6E>
- Setup:
  - 65534/015/63 (max cyl/hd values)
  - 65535/016/63 (number of cyl/hd)

IDE disk: Model (WD400JB-00PMA0) serial # (WD-WMAJCI011131)

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 00032067 1023/001/01 1023/254/63 01 Fat12
4 x 00032130 002104515 1023/001/01 1023/254/63 05 extended
5 S 000000063 00104452 1023/001/01 1023/254/63 06 Fat16
6 x 00013213 004192965 1023/001/01 1023/254/63 05 extended
7 S 000000063 04192902 1023/001/01 1023/254/63 16 other
8 x 006329610 008401995 1023/001/01 1023/254/63 05 extended
9 S 000000063 00401932 1023/001/01 1023/254/63 0B Fat32
10 x 014731605 010490382 1023/001/01 1023/254/63 05 extended
11 S 000000063 010490382 1023/001/01 1023/254/63 83 Linux
12 x 025222050 004209030 1023/001/01 1023/254/63 05 extended
13 S 000000063 004208967 1023/001/01 1023/254/63 82 Linux swap
14 x 029431080 027744255 1023/001/01 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
19 x 002980827 sectors 10742183424 bytes
20 x 00032067 sectors 16418304 bytes
21 x 002104515 sectors 1077479424 bytes
22 x 004192902 sectors 2146765824 bytes
23 x 008401932 sectors 4301789184 bytes
24 x 010490382 sectors 5371075584 bytes
25 x 004208967 sectors 2154991104 bytes
26 x 027744192 sectors 14205026304 bytes
27 x 029431080 sectors 2146765824 bytes
28 x 027744192 sectors 14205026304 bytes

Log

Highlights:

- IXImager Log file
- SCSI device sdb: 78165360 512-byte hdwr sectors (40021 MB)
- User selected IXImager Default Image Format
- Initialized...

Beginning Image operation for 2146765824 bytes
Beginning Image operation
Beginning Image operation
Beginning Image operation
Image Complete
Image was completed successfully.

Read : 2.147 GB (2146765824 bytes)
Written : 49.54 MB (49537184 bytes)
Total Processed: 2.147 GB (2146765824 bytes)
Image Speed : 7.922 MB/sec
Elapsed Time : 0h 4m 31s
Compression : 97.69%
Bad Sectors : 0
SHA-1 Value : 0893c80edce69074fd139b67fb6de3ce9390c550

Source SHA1 Hash: E196D36B7322C0EF83923112AD1800581742B6E

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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>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>
</tbody>
</table>
5.2.34 DA-07-NT

Test Case DA-07-NT ILook IXimager Version 2.0, Feb 01 2006

Description: 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: Joe
Test Date: Mon Apr 24 10:38:49 2006
Drives: src(43) dst (4D-FU2) other (none)

Source
- src hash: < 888E6E7F7AD237DC7A732281D93F325065E5871 >
- Model (0BB-75JHC0 ) serial # ( WD-WMAC465B )

<table>
<thead>
<tr>
<th>Sector</th>
<th>Start LBA</th>
<th>Length</th>
<th>C/H/S Start</th>
<th>C/H/S End</th>
<th>Boot Partition type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 P</td>
<td>0 000000063</td>
<td>020980827</td>
<td>0000/001/01</td>
<td>1023/254/63</td>
<td>0C Fat32X</td>
</tr>
<tr>
<td>2 X</td>
<td>0 020980890</td>
<td>057143205</td>
<td>1023/000/01</td>
<td>1023/254/63</td>
<td>0F extended</td>
</tr>
<tr>
<td>3 S</td>
<td>0 000000063</td>
<td>00032067</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>01 Fat12</td>
</tr>
<tr>
<td>4 x</td>
<td>0 000932130</td>
<td>020145515</td>
<td>1023/000/01</td>
<td>1023/254/63</td>
<td>05 extended</td>
</tr>
<tr>
<td>5 S</td>
<td>0 000000063</td>
<td>02014452</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>06 Fat16</td>
</tr>
<tr>
<td>6 x</td>
<td>0 002136645</td>
<td>04192962</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>05 extended</td>
</tr>
<tr>
<td>7 S</td>
<td>0 000000063</td>
<td>04192902</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>16 other</td>
</tr>
<tr>
<td>8 x</td>
<td>0 06329610</td>
<td>08401995</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>05 extended</td>
</tr>
<tr>
<td>9 S</td>
<td>0 000000063</td>
<td>08401932</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>0B Fat32</td>
</tr>
<tr>
<td>10 x</td>
<td>0 14731605</td>
<td>014900445</td>
<td>1023/000/01</td>
<td>1023/254/63</td>
<td>05 extended</td>
</tr>
<tr>
<td>11 S</td>
<td>0 00000063</td>
<td>01490382</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>83 Linux</td>
</tr>
<tr>
<td>12 x</td>
<td>0 25222050</td>
<td>04209030</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>05 extended</td>
</tr>
<tr>
<td>13 S</td>
<td>0 00000063</td>
<td>04208967</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>82 Linux swap</td>
</tr>
<tr>
<td>14 x</td>
<td>0 29431080</td>
<td>027712125</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>05 extended</td>
</tr>
<tr>
<td>15 S</td>
<td>0 00000063</td>
<td>027712062</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>07 NTFS</td>
</tr>
<tr>
<td>16 S</td>
<td>0 00000000</td>
<td>00000000</td>
<td>0000/000/00</td>
<td>0000/000/00</td>
<td>00 empty entry</td>
</tr>
<tr>
<td>17 P</td>
<td>0 00000000</td>
<td>00000000</td>
<td>0000/000/00</td>
<td>0000/000/00</td>
<td>00 empty entry</td>
</tr>
<tr>
<td>18 P</td>
<td>0 00000000</td>
<td>00000000</td>
<td>0000/000/00</td>
<td>0000/000/00</td>
<td>00 empty entry</td>
</tr>
<tr>
<td>1 020980827 sectors 10742183424 bytes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 00032067 sectors 16418320 bytes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 021404452 sectors 1074794242 bytes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 004192902 sectors 2146765824 bytes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 008401932 sectors 4301789184 bytes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 010490382 sectors 5371075584 bytes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13 004208967 sectors 2154991104 bytes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 027712062 sectors 1418575744 bytes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Log Highlights:
- IXImager Log file
- SCSI device sdb: 78125000 512-byte hdwr sectors (40000 KB)
- SCSI device sdc: 781443888 512-byte hdwr sectors (400099 MB)
- User selected ILook Default Image Format
- Initializing...
- Opened output file '/ILookImager/ILook.019/DA07NT001.asb'
- Beginning Image operation for 1418575744 bytes
#### Test Case DA-07-NT

**ILook IXimager Version 2.0, Feb 01 2006**

Beginning Image operation

Beginning Image operation

Image Complete

Image was completed successfully.

Read : 14.19 GB (14188575744 bytes)

Written : 324.5 MB (324528081 bytes)

Total Processed: 14.19 GB (14188575744 bytes)

Image Speed : 8.293 MB/sec

Elapsed Time : 0h 28m 31s

Compression : 97.71%

Bad Sectors : 0

SHA-1 Value : 73eb2d7564b060db796efb78694a10e6b43d23f

for 14188575744 bytes

Clearing computer memory...

Source SHA1 Hash: 888E2E7F7AD237DC7A732281DD93F325065E5871

#### Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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>as expected</td>
</tr>
</tbody>
</table>

#### Analysis: Expected results achieved

---

#### 5.2.35 DA-07-R1

**Test Case DA-07-R1 ILook IXimager Version 2.0, Feb 01 2006**

**Description:** 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:** SamSpade

**Test Date:** Tue Jun 27 13:33:33 2006

**Drives:**

- **src (AI) dat (2A-FU2) other (none)**

**Source Setup:**

- **src hash:** <229F00E5E9232A47B69E30ED4D57F0DFFE1A1F7>
- **1444674407379551615/063/32 (max cyllhd values)**
- **Model (Logical Disk 2 ) serial # ()**

<table>
<thead>
<tr>
<th>N</th>
<th>Start LBA</th>
<th>Length</th>
<th>Start C/H/S</th>
<th>End C/H/S</th>
<th>Boot Partition type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>000000063</td>
<td>004160772</td>
<td>0000/001/01</td>
<td>0258/254/63</td>
<td>07 NTFS</td>
</tr>
<tr>
<td>2</td>
<td>000000000</td>
<td>000000000</td>
<td>0000/000/00</td>
<td>0000/000/00</td>
<td>00 empty entry</td>
</tr>
<tr>
<td>3</td>
<td>000000000</td>
<td>000000000</td>
<td>0000/000/00</td>
<td>0000/000/00</td>
<td>00 empty entry</td>
</tr>
<tr>
<td>4</td>
<td>000000000</td>
<td>000000000</td>
<td>0000/000/00</td>
<td>0000/000/00</td>
<td>00 empty entry</td>
</tr>
</tbody>
</table>

---

April 2007 58 of 116  Results of IXimager V2 02/01/06
1 004160772 sectors 2130315264 bytes

A1 is a raid 1 consisting of drives 48 and 49.

Log Highlights:

SCSI device sda: 488397168 512-byte hdwr sectors (250059 MB)
SCSI device sdb: 4192256 512-byte hdwr sectors (2146 MB)
User selected ILook Default Image Format
Initializing...
Opened output file '/ILookImager/ILook.004/DA07R1001.asb'
Beginning Image operation for 2146435072 bytes
Beginning Image operation
Beginning Image operation
Opened output file '/ILookImager/ILook.004/DA07R1002.asb'
continuing at byte 1488781312
Image is being stored to /ILook.004/DA07R1002.asb
Image Complete
Image was completed successfully.

Read : 2.146 GB (2146435072 bytes)
Written 749.6 MB (749551753 bytes)
Total Processed: 2.146 GB (2146435072 bytes)
Image Speed 13.76 MB/sec
Elapsed Time 0h 2m 36s
Compression 65.08%
Bad Sectors 0
SHA-1 Value: 229f00e5e9232a47e69e30ed4dc57f0dfdefea1f7
: for 2146435072 bytes

Clearing computer memory...

Source SHA1 Hash: 229F00E5E9232A47E69E30ED4DC57F0DFDFE1F7

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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>as expected</td>
</tr>
</tbody>
</table>

Analysis: Expected results achieved

5.2.36 DA-07-R5

Test Case DA-07-R5 ILook IXimager Version 2.0, Feb 01 2006

Description: 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,
### Test Case DA-07-R5

**ILook IXimager Version 2.0, Feb 01 2006**

- **Tester Name:** Brl
- **Test Host:** SamSpade
- **Test Date:** Tue Jun 27 09:46:00 2006
- **Drives:** src(A5) dst (2A-FU2) other (none)

**Source Setup:**
- src hash: \(<\text{EEF618B63B5A55893CFFB685E20344D9030BBA94B}>\)
- 12576768 total sectors (6439305216 bytes)
- 18446744073709551615/063/32 (max cyl/hd values)

<table>
<thead>
<tr>
<th>Model (Logical Disk 0 ) serial # ()</th>
</tr>
</thead>
<tbody>
<tr>
<td>N Start LBA Length Start C/H/S End C/H/S boot Partition type</td>
</tr>
<tr>
<td>1 P 0000000061 012546702 0000/001/01 0780/254/63 Boot 07 NTFS</td>
</tr>
<tr>
<td>2 P 0000000000 0000000000 0000/000/00 0000/000/00 00 empty entry</td>
</tr>
<tr>
<td>3 P 0000000000 0000000000 0000/000/00 0000/000/00 00 empty entry</td>
</tr>
<tr>
<td>4 P 0000000000 0000000000 0000/000/00 0000/000/00 00 empty entry</td>
</tr>
</tbody>
</table>

1 012546702 sectors 6423911424 bytes

A5 is a Raid 5 consisting of drives 40, 45, 46 and 47

**Log Highlights:**

- User selected ILook Default Image Format
- Initializing...
- Opening output file '/ILookImager/ILook.002/DA07R5001.asb'
- Beginning Image operation for 6439305216 bytes
- Image is being stored to '/ILookImager/ILook.002/DA07R5002.asb'
- Image Complete

- Read : 6.439 GB (6439305216 bytes)
- Written : 1.019 GB (1019166787 bytes)
- Total Processed: 6.439 GB (6439305216 bytes)
- Image Speed : 13.85 MB/sec
- Elapsed Time : 0h 7m 45s
- Compression : 84.17%
- Bad Sectors : 0
- SHA-1 Value : eef618b63b5a55893cfb685e20344d9030ba94b for 6439305216 bytes

Clearing computer memory...

Source SHA1 Hash: EEF618B63B5A55893CFB685E20344D9030BBA94B

**Results:**

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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 XB.</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>as expected</td>
</tr>
</tbody>
</table>

**Analysis:** Expected results achieved

---

### 5.2.37 DA-07-SWAP

**Test Case DA-07-SWAP ILook IXimager Version 2.0, Feb 01 2006**

**Description:** 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.
Test Case DA-07-SWAP ILook IXimager Version 2.0, Feb 01 2006

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: Max
Test Date: Mon Apr 24 10:16:22 2006
Drives: src(44) dst (4D-FU2) other (none)

Source
Setup:

<table>
<thead>
<tr>
<th>Device</th>
<th>Size</th>
<th>Type</th>
<th>Partitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>sdb</td>
<td>78165360</td>
<td></td>
<td></td>
</tr>
<tr>
<td>sdc</td>
<td>781443888</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

User selected ILook Default Image Format

Log Highlights:
- IXImager Log file
- SCSI device sdb: 78165360 512-byte hdwr sectors (40021 MB)
- SCSI device sdc: 781443888 512-byte hdwr sectors (40009 MB)
- User selected ILook Default Image Format
- Initializing...
- Opened output file '/ILookImager/ILook.017/DA07SWAP001.asb'
- Beginning Image operation for 2154991104 bytes
- Beginning Image operation
- Beginning Image operation
- Image Complete
- Image was completed successfully.

Read : 2.155 GB (2154991104 bytes)
Written : 49.74 MB (49731888 bytes)
Total Processed: 2.155 GB (2154991104 bytes)
Image Speed : 7.923 MB/sec
Elapsed Time : 0h 4m 32s
Compression : 97.69%
Test Case DA-07-SWAP ILook IXimager Version 2.0, Feb 01 2006

Bad Sectors : 0
SHA-1 Value : 7bdd19b23e4ab62042df47fad69bb87f1ec6a
: for 2154991104 bytes
Clearing computer memory...

Source SHA1 Hash: E196D3687B322C0EF83923112AD1800581742B6E

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
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</thead>
<tbody>
<tr>
<td>AM-01 Source acquired using interface AI.</td>
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<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>as expected</td>
</tr>
</tbody>
</table>

Analysis: Expected results achieved

5.2.38 DA-07-X2

Test Case DA-07-X2 ILook IXimager Version 2.0, Feb 01 2006

Description: 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: Joe
Test Date: Fri Apr 21 16:53:30 2006
Drives: src(43) dst (4D-FU2) other (none)

Source
src hash: < 888E2E7FAD37DC7A732281DD9F325655B7871 >
78125000 total sectors (4000000000 bytes)
Model (0BB-75JHC0 ) serial # ( WD-WMAK46588)

Setup:
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 0F extended
2 X 002104515 057143205 0000/001/01 1023/254/63 0F extended
3 S 000000063 00132005 1023/001/01 1023/254/63 06 Fat16
4 x 000032150 002104452 0000/001/01 1023/254/63 06 Fat16
5 S 000000063 00132005 1023/001/01 1023/254/63 0F extended
6 x 002136645 004192902 0000/001/01 1023/254/63 05 extended
7 S 000000063 00132005 1023/001/01 1023/254/63 06 Fat16
8 x 006329610 008401995 0000/001/01 1023/254/63 05 extended
9 S 000000063 00132005 1023/001/01 1023/254/63 0B Fat32
10 x 014731605 010490382 0000/001/01 1023/254/63 0F extended
11 S 000000063 010490382 1023/001/01 1023/254/63 05 extended
12 x 025222050 004192902 0000/001/01 1023/254/63 0F extended
13 S 000000063 010490382 1023/001/01 1023/254/63 06 Fat16
14 x 029431080 027712095 0000/001/01 1023/254/63 05 extended
15 S 000000063 027712095 1023/001/01 1023/254/63 0B Fat32
16 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry

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Test Case DA-07-X2 ILook IXimager Version 2.0, Feb 01 2006

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: IXImager Log file
SCSI device sdb: 78125000 512-byte hdwr sectors (40000 MB)
SCSI device sdc: 781443888 512-byte hdwr sectors (400099 MB)
User selected ILook Default Image Format
Initializing...
Opened output file '/ILookImager/ILook.016/DA07X2001.asb'
Beginning Image operation for 5371075584 bytes
Beginning Image operation
Beginning Image operation
Image Complete
Image was completed successfully.

Read : 5.371 GB (5371075584 bytes)
Written : 125.1 MB (125099895 bytes)
Total Processed: 5.371 GB (5371075584 bytes)
Image Speed : 7.934 MB/sec
Elapsed Time : 0h 11m 17s
Compression : 97.67%
Bad Sectors : 0
SHA-1 Value : 283bcc32de892c12c37698af7e3870361e57f57
: for 5371075584 bytes
Clearing computer memory...
Source SHA1 Hash: 888E2E7F7AD237DC7A732281DD93F325065E5871

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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>as expected</td>
</tr>
</tbody>
</table>

Analysis: Expected results achieved

5.2.39 DA-08-ATA28

Test Case DA-08-ATA28 ILook IXimager Version 2.0, Feb 01 2006

Description: 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: Joe
Test Date: Thu May 25 15:03:06 2006
Drives:
src(42) dst (4D-FU2) other (none)
Source
src hash: < 5A75399023056E0EB905082B35F8FAA1DB049229 >
Setup:
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 000000000 000000000 0000/00/00 0000/00/00 00 empty entry
2 P 000000000 000000000 0000/00/00 0000/00/00 00 empty entry
3 P 000000000 000000000 0000/00/00 0000/00/00 00 empty entry
4 P 000000000 000000000 0000/00/00 0000/00/00 00 empty entry
1 070348572 sectors 36018468864 bytes

HPA created
BIOS, XBIOS and Direct disk geometry Reporter (BXDR)
BXDR 128 /S700000000 /P /fbxdrlog.txt
Setting Maximum Addressable Sector to 70000000
NAS now set to 70000000

Log Highlights:
IXImager Log file
hda: 70000001 sectors (35840 MB) w/8192K1B Cache, CHS=65535/16/63, UDMA(100)
SCSI device sdb: 781443888 512-byte hdwr sectors (400099 MB)
Maximum HPA address: /dev/hda: 78165360 (40.02 GB)
An HPA area hiding 4.181 GB has been detected on Hard Drive device '/dev/hda'. Unless this HPA is disabled, the imaged HPA. Would you like to disable the HPA so the IXImager can obtain the additional data hidden within the HPA area?
User selected IXImager Default Image Format
Initializing...
Opened output file '/ILookImager/ILook.035/DA08ATA28001.asb'
Beginning Image operation for 40020664320 bytes
Beginning Image operation
Beginning Image operation
Opened output file '/ILookImager/ILook.035/DA08ATA28002.asb'
continuing at byte 1281622016
Image is being stored to /ILook.035/DA08ATA28002.asb
Opened output file '/ILookImager/ILook.035/DA08ATA28003.asb'
continuing at byte 22366126080
Image is being stored to /ILook.035/DA08ATA28003.asb
Image Complete
Image was completed successfully.
Read: 40.02 GB (40020664320 bytes)
Written: 1.702 GB (1702413859 bytes)
Total Processed: 40.02 GB (40020664320 bytes)
Image Speed: 25.22 MB/sec
Elapsed Time: 0h 26m 27s
Compression: 95.75%
Bad Sectors: 0
SHA-1 Value: 5a75399023056e0eb905082b35f8faa1db049229
Clearing computer memory...
Source SHA1 Hash: 5A75399023056E0EB905082B35F8FAA1DB049229

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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>
</tbody>
</table>
Test Case DA-08-ATA48

**Description:**
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:**
Max

**Test Date:**
Thu May 25 15:17:34 2006

**Drives:**
src(4B) dst (4D-FU2) other (none)

**Source Setup:**
src hash: F409920836FED76DBB50DEEEF67A6DD6DF48E

**Log Highlights:**
IXImager Log file
hda: 351646722 sectors (179712 MB) w/8192KiB Cache, CHS=21848/255/63, UDMA(100)
SCSI device sdb: 781443888 512-byte hdwr sectors (400099 MB)
Maximum HPA address: /dev/hda: 390721968 (200.0 GB)

An HPA area hiding 20.34 GB has been detected on Hard Drive device '/dev/hda'. Unless this HPA is disabled, the imaged HPA. Would you like to disable the HPA so the IXimager can obtain the additional data hidden within the HPA area?
User selected IXImager Default Image Format Initializing...
Test Case DA-08-ATA48 ILook IXimager Version 2.0, Feb 01 2006

Opened output file '/ILookImager/ILook.036/da08ata48001.asb'
Beginning Image operation for 200049647616 bytes
Beginning Image operation
Beginning Image operation
Opened output file '/ILookImager/ILook.036/da08ata48002.asb'
continuing at byte 1263861760
Image is being stored to /ILook.036/da08ata48002.asb
Opened output file '/ILookImager/ILook.036/da08ata48003.asb'
continuing at byte 22317760512
Image is being stored to /ILook.036/da08ata48003.asb
Opened output file '/ILookImager/ILook.036/da08ata48004.asb'
continuing at byte 50487296000
Image is being stored to /ILook.036/da08ata48004.asb
Opened output file '/ILookImager/ILook.036/da08ata48005.asb'
continuing at byte 78653292544
Image is being stored to /ILook.036/da08ata48005.asb
Opened output file '/ILookImager/ILook.036/da08ata48006.asb'
continuing at byte 106816536576
Image is being stored to /ILook.036/da08ata48006.asb
Opened output file '/ILookImager/ILook.036/da08ata48007.asb'
continuing at byte 134982467584
Image is being stored to /ILook.036/da08ata48007.asb
Opened output file '/ILookImager/ILook.036/da08ata48008.asb'
continuing at byte 163148464128
Image is being stored to /ILook.036/da08ata48008.asb
Opened output file '/ILookImager/ILook.036/da08ata48009.asb'
continuing at byte 191314460672
Image is being stored to /ILook.036/da08ata48009.asb
Image Complete
Image was completed successfully.

Read : 200.0 GB (200049647616 bytes)
Written : 5.385 GB (5385219933 bytes)
Total Processed: 200.0 GB (200049647616 bytes)
Image Speed : 26.23 MB/sec
Elapsed Time : 2h 7m 6s
Compression : 97.31%
Bad Sectors : 0
SHA-1 Value : f409920836fed76dbb60deeef467a6dded5bf48e
for 200049647616 bytes
Clearing computer memory...

Source SHA1 Hash: F409920836FED76DBB60DEEEF467A6DEED5BF48E

Results:

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</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-07 All hidden 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>as expected</td>
</tr>
</tbody>
</table>

Analysis: Expected results achieved

5.2.41 DA-08-DCO

Test Case DA-08-DCO ILook IXimager Version 2.0, Feb 01 2006

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.

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Test Case DA-08-DCO IXimager Version 2.0, Feb 01 2006

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: McCloud
Test Date: Thu Oct 12 14:22:38 2006
Drives:
src(92) dst (50-IDE) other (none)
Source
src hash: < 63E6F7BD3040A8ADA2CF8FBF66A805B76DF10481 >

Setup:
58633344 total sectors (30020272128 bytes)
58167/015/63 (max cyl/hd values)
58168/016/63 (number of cyl/hd)
IDE disk: Model (WD WD300BB-00CAA0) serial # (WD-WMAH2140350)
N Start LBA Length Start C/H/S End C/H/S boot Partition type
1 P 00000000 0058/005057 0000/001/01 1023/254/63 Boot 07 MBR
2 P 00000000 00000000 0000/00/00 0000/00/00
3 P 00000000 00000000 0000/00/00 0000/00/00
4 P 00000000 00000000 0000/00/00 0000/00/00
1 058650507 sectors 30005789184 bytes
After DCO Created:
52770010 Sectors, 2701245120
src with DCO hash: 55A3C8FB7567B80034DCEB71F7D7A477D868B1781

Log
Highlights:
IXImager Log file
hda: 52770010 sectors (27012 MB) w/2048KIB Cache, CHS=3284/255/63,
UDMA(100)
hdb: 156301488 sectors (80026 MB) w/8192KIB Cache, CHS=9729/255/63,
UDMA(100)
User selected ILook Default Image Format
Initializing...
Opened output file '/ILookImager/ILook.038/da08dco001.asb'
Beginning Image operation for 30020272128 bytes
Beginning Image operation
Beginning Image operation
Open output file '/ILookImager/ILook.038/da08dco002.asb'
continuing at byte 1256980480
Image is being stored to /ILook.038/da08dco002.asb
Opened output file '/ILookImager/ILook.038/da08dco003.asb'
continuing at byte 24723062784
Image is being stored to /ILook.038/da08dco003.asb
Image Complete
Image was completed successfully.

Read : 30.02 GB (30020272128 bytes)
Written : 1.418 GB (1418092899 bytes)
Total Processed: 30.02 GB (30020272128 bytes)
Image Speed : 14.57 MB/sec
Elapsed Time : 0h 34m 21s
Compression : 95.28%
Bad Sectors : 0
SHA-1 Value : 63e6f7bd3040a8ada2cf8fbf66a805b76df10481
    for 30020272128 bytes
Clearing computer memory...

Source SHA1 Hash: 55A3C8FB7567B80034DCEB71F7D7A477D868B1781

Results:

<table>
<thead>
<tr>
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<th>Actual Result</th>
</tr>
</thead>
</table>

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Results of IXimager V2 02/01/06
Analysis: Expected results achieved

5.2.42 DA-09

Test Case DA-09 ILook IXimager Version 2.0, Feb 01 2006

Description: 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: Brl
Test Host: Frank
Test Date: Tue Jun 27 15:37:17 2006

Drives: src(BE) dst (0B) other (BF)

Source Setup:
No before hash for be total sectors ( bytes)
Vendor: WDC WD20 Model: 00JB-00GVC0 Rev: 08.0
390721968 512-byte hdwr sectors (200050 MB)
Bad sectors present on drive: 0, 512, 1024-1025, 2048-2050, 4096-4099, 195360979-195360983, 195360985-195360989, 390721967

Log Highlights:
Comparison of original to clone
Sectors compared: 390721968
Sectors match: 390721946
Sectors differ: 22
Bytes differ: 10941
Diffs range 0, 512, 1024-1025, 2048-2050, 4096-4099, 195360979-195360983, 195360985-195360989, 390721967
Source (390721968) has 97675200 fewer sectors than destination (488397168)
Zero fill: 0
Src Byte fill (BF): 0
Test Case DA-03 ILook IXimager Version 2.0, Feb 01 2006

Byte fill (0B): 97675200
Other fill: 0
Other no fill: 0
Zero fill range:
Src fill range: 390721968-488397167
Other fill range: 
Other not filled range: 
0 source read errors, 0 destination read errors

IXImager Log file
hda: 390721968 sectors (200049 MB) w/8192KiB Cache, CHS=24321/255/63, UDMA(100)
ata1: dev 0 ATA-6, max UDMA/100, 488397168 sectors: LBA48
SCSI device sdb: 488397168 512-byte hdwr sectors (250059 MB)
SCSI device sdb: 488397168 512-byte hdwr sectors (250059 MB)
hda: 390721968 sectors (200049 MB) w/8192KiB Cache, CHS=24321/255/63, UDMA(100)
ata1: dev 0 ATA-6, max UDMA/100, 488397168 sectors: LBA48
SCSI device sda: I/O error reading 8 sectors, sector 0
SCSI device sda: I/O error reading 8 sectors, sector 0
Opened input device '/dev/hda'
Initializing...
Opened output device '/dev/sdb'
Beginning Clone operation for 20049647616 bytes
Beginning Clone operation
Beginning Clone operation
Bad sector: position 0 (sector 0)
Bad sector: position 262144 (sector 512)
Bad sector: position 524288 (sector 1024)
Bad sector: position 524800 (sector 1025)
Bad sector: position 1048576 (sector 2048)
Bad sector: position 1049988 (sector 2049)
Bad sector: position 1049600 (sector 2050)
Bad sector: position 2097152 (sector 4096)
Bad sector: position 2097664 (sector 4097)
Bad sector: position 2098176 (sector 4098)
Bad sector: position 2098688 (sector 4099)
Bad sector: position 100024821248 (sector 195360979)
Bad sector: position 100024821760 (sector 195360980)
Bad sector: position 100024822272 (sector 195360981)
Bad sector: position 100024822784 (sector 195360982)
Bad sector: position 100024823296 (sector 195360983)
Bad sector: position 100024824320 (sector 195360985)
Bad sector: position 100024824832 (sector 195360986)
Bad sector: position 100024825344 (sector 195360987)
Bad sector: position 100024825856 (sector 195360988)
Bad sector: position 100024826368 (sector 195360989)
Bad sector: position 20049647104 (sector 390721967)
Clone Complete
Clone was completed successfully.

Read : 200.0 GB (200049647616 bytes)
Written : 200.0 GB (200049647616 bytes)
Total Processed: 200.0 GB (200049647616 bytes)
Clone Speed : 49.15 MB/sec
Elapsed Time : 1h 7m 50s
Bad Sectors : 22
Clearing computer memory...
Initializing...

Opened input device '/dev/hda', continuing at byte 0
Beginning Verify operation for 20049647616 bytes
Bad sector: position 0 (sector 0)
Bad sector: position 262144 (sector 512)
Bad sector: position 524288 (sector 1024)
Bad sector: position 524800 (sector 1025)
Bad sector: position 1048576 (sector 2048)
**Test Case DA-09 ILook IXimager Version 2.0, Feb 01 2006**

Bad sector: position 1049088 (sector 2049)
Bad sector: position 1049600 (sector 2050)
Bad sector: position 2097152 (sector 4096)
Bad sector: position 2097664 (sector 4097)
Bad sector: position 2098176 (sector 4098)
Bad sector: position 2098688 (sector 4099)
Bad sector: position 100024821248 (sector 195360979)
Bad sector: position 100024821760 (sector 195360980)
Bad sector: position 100024822272 (sector 195360981)
Bad sector: position 100024822784 (sector 195360982)
Bad sector: position 100024823296 (sector 195360983)
Bad sector: position 100024823808 (sector 195360984)
Bad sector: position 100024824320 (sector 195360985)
Bad sector: position 100024824832 (sector 195360986)
Bad sector: position 100024825344 (sector 195360987)
Bad sector: position 100024825856 (sector 195360988)
Bad sector: position 100024826368 (sector 195360989)
Bad sector: position 100024826880 (sector 195360990)

Verify Complete
Verify was completed successfully.

Read : 200.0 GB (200049647616 bytes)
Written : 0.000 MB (0 bytes)
Total Processed: 200.0 GB (200049647616 bytes)
Verify Speed : 45.85 MB/sec
Elapsed Time : 1h 12m 43s
Bad Sectors : 22
SHA-1 Value : 55f30dbab3fbd80459235a26335ddf5af5899496
: for 200049647616 bytes

Clearing computer memory...

**Results:**

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
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<tbody>
<tr>
<td>AM-01 Source acquired using interface AI.</td>
<td>as expected</td>
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<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>AM-09 Error logged.</td>
<td>as expected</td>
</tr>
<tr>
<td>AM-10 Benign fill replaces inaccessible sectors.</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>as expected</td>
</tr>
</tbody>
</table>

**Analysis:** Expected results achieved

**5.2.43 DA-10-ENCRYPTED**

**Test Case DA-10-ENCRYPTED ILook IXimager Version 2.0, Feb 01 2006**

**Description:** 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 are 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.
Test Case DA-10-ENCRYPTED

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: Joe
Test Date: Thu May 4 09:09:57 2006
Drivers: src(2A) dst (4D-FU2) other [none]
Source hash: < F5F9F2903DCAB895F36E270FB22A722E27918125 >

1 017751762 sectors 9088902144 bytes
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: IXImager Log file
SCSI device sdb: 17783249 512-byte hdwr sectors (9105 MB)
SCSI device sdc: 781443888 512-byte hdwr sectors (400099 MB)
User selected ILook Encrypted Image Format
Initializing...
Opened output file '/ILookImager/ILook.023/DA10ENCRYPTED001.asb'
Beginning Image operation for 9105023488 bytes
Beginning Image operation
Beginning Image operation
Image Complete
Image was completed successfully.
Read : 9.105 GB (9105023488 bytes)
Written : 609.1 MB (609137424 bytes)
Total Processed: 9.105 GB (9105023488 bytes)
Image Speed : 11.98 MB/sec
Elapsed Time : 0h 12m 40s
Compression : 93.31%
Bad Sectors : 0
SHA-1 Value : f5f9f2903dcab895f36e270fb22a722e27918125
for 9105023488 bytes
Clearing computer memory...
Source SHA1 Hash: F5F9F2903DCAB895F36E270FB22A722E27918125

Results:

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</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-02 Image file in specified format.</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>as expected</td>
</tr>
</tbody>
</table>

Analysis: Expected results achieved

5.2.44 DA-10-RAW

Test Case DA-10-RAW

Description: DA-10 Acquire a digital source to an image file in an alternate format.

Assertions:

<table>
<thead>
<tr>
<th>Assertion</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM-01 The tool uses access interface SRC-AI to access the digital source.</td>
</tr>
<tr>
<td>AM-02 The tool acquires digital source DS.</td>
</tr>
<tr>
<td>AM-03 The tool executes in execution environment XE.</td>
</tr>
<tr>
<td>AM-05 If image file creation is specified, the tool creates an image file on file system type FS.</td>
</tr>
</tbody>
</table>
## Test Case DA-10-RAW ILook IXimager Version 2.0, Feb 01 2006

<table>
<thead>
<tr>
<th>AM-06</th>
<th>All visible sectors are acquired from the digital source.</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM-08</td>
<td>All sectors acquired from the digital source are acquired accurately.</td>
</tr>
<tr>
<td>AO-01</td>
<td>If the tool creates an image file, the data represented by the image file is the same as the data acquired by the tool.</td>
</tr>
<tr>
<td>AO-02</td>
<td>If an image file format is specified, the tool creates an image file in the specified format.</td>
</tr>
<tr>
<td>AO-05</td>
<td>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.</td>
</tr>
<tr>
<td>AO-22</td>
<td>If requested, the tool calculates block hashes for a specified block size during an acquisition for each block acquired from the digital source.</td>
</tr>
<tr>
<td>AO-23</td>
<td>If the tool logs any log significant information, the information is accurately recorded in the log file.</td>
</tr>
<tr>
<td>AO-24</td>
<td>If the tool executes in a forensically safe execution environment, the digital source is unchanged by the acquisition process.</td>
</tr>
</tbody>
</table>

### Tester Name: brl
### Test Host: Joe
### Test Date: Fri Jun 2 14:09:15 2006

#### Drives:
- src (2A)
- dst (4D-FU2)
- other (none)

#### Source Setup:
- src hash: `<F5F9F2903CA5F36E2702A22A722E27918125>`
- 17781249 total sectors (910523488 bytes)
- Model (QM39100TD-SAC ) serial # (PCB=20-116711-06 HDAQM39100TD-SAC )
- 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:
- IXImager Log file
- SCSI device sdb: 17783249 512-byte hdwr sectors (9105 MB)
- SCSI device sdc: 781443888 512-byte hdwr sectors (400099 MB)
- User selected ILook Raw Image Format
- Initializing...
- Opened output file '/ILookImager/ILook.022/DA10RAW001.asb'
- Beginning Image operation for 9105023488 bytes
- Beginning Image operation
- Image is being stored to /ILook.022/DA10RAW001.asb
- Continuing at byte 648740864
- Continuing at byte 1295450112
- Image is being stored to /ILook.022/DA10RAW002.asb
- Continuing at byte 2588868608
- Image is being stored to /ILook.022/DA10RAW003.asb
- Continuing at byte 3235577586
- Image is being stored to /ILook.022/DA10RAW004.asb
- Continuing at byte 3882287104
- Image is being stored to /ILook.022/DA10RAW005.asb
- Continuing at byte 4528996352
- Image is being stored to /ILook.022/DA10RAW006.asb
- Continuing at byte 5175705600
- Image is being stored to /ILook.022/DA10RAW007.asb
- Continuing at byte 5822414848
- Image is being stored to /ILook.022/DA10RAW008.asb
- Continuing at byte 6469124096
- Image is being stored to /ILook.022/DA10RAW009.asb
- Continuing at byte 7115833344
- Image is being stored to /ILook.022/DA10RAW010.asb
- Continuing at byte 7762542592

Results of IXimager V2 02/01/06
Test Case DA-10-RAW ILook IXimager Version 2.0, Feb 01 2006

continuing at byte 7762542592
Image is being stored to /ILook.022/DA10RAW013.asb
Opened output file '/ILookImager/ILook.022/DA10RAW014.asb'
continuing at byte 8409251840
Image is being stored to /ILook.022/DA10RAW014.asb
Opened output file '/ILookImager/ILook.022/DA10RAW015.asb'
continuing at byte 9055961088
Image is being stored to /ILook.022/DA10RAW015.asb
Image Complete
Image was completed successfully.

Read : 9.105 GB (9105023488 bytes)
Written : 9.123 GB (9122743904 bytes)
Total Processed: 9.105 GB (9105023488 bytes)
Image Speed : 10.65 MB/sec
Elapsed Time : 0h 14m 15s
Bad Sectors : 0
SHA-1 Value : f5f9f2903dcab895f36e270fb22a722e27918125
: for 9105023488 bytes
Clearing computer memory...

Source SHA1 Hash: F5F9F2903DCA895F36E270FB22A722E27918125

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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-02 Image file in specified format.</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>as expected</td>
</tr>
</tbody>
</table>

Analysis: Expected results achieved

5.2.45 DA-12

Test Case DA-12 ILook IXimager Version 2.0, Feb 01 2006

Description: DA-12 Attempt to create an image file where there is insufficient space.

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.
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-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: Max
Test Date: Thu May 4 16:59:09 2006
Drives: src(07) dst (8E-FU2) other [none]

Source Setup:
src hash: < 655E9BDDB36A3F9C5C4CCB8F32B8C5B61AF9F52E>
156301488 total sectors (80026361856 bytes)
Model (WD WD800JD-32HK) serial # (WD-WMAJ91510044)
N Start LBA Length Start C/H/S End C/H/S boot Partition type
1 P 0000000063 156280257 0000/001/01 1023/254/63 Boot 07 NTFS
2 P 0000000000 00000000 0000/000/00 0000/000/00 00 empty entry
3 P 0000000000 00000000 0000/000/00 0000/000/00 00 empty entry
4 P 0000000000 00000000 0000/000/00 0000/000/00 00 empty entry

Results of IXimager V2 02/01/06
Log Highlights:

IXImager Log file
ata1: dev 0 ATA-6, max UDMA/133, 156301488 sectors: LBA
SCSI device sdb: 156301488 512-byte hdwr sectors (80026 MB)
SCSI device sdc: 78140160 512-byte hdwr sectors (40008 MB)
User selected ILook Default Image Format
Initializing...
It appears your target device is significantly smaller than your source device. Even though you have compression enabled there is no guarantee that everything will compress to fit on your selected target device. If you choose to continue this operation, when your target device becomes full - you will need to change the output media to complete the operation.

Would you like to continue this operation anyway?
User selected: Yes

Opened output file '/ILookImager/ILook.001/DA12001.asb'
Beginning Image operation for 80026361856 bytes
Beginning Image operation
Beginning Image operation
Opened output file '/ILookImager/ILook.001/DA12002.asb'
Continuing at byte 1287651328
Image is being stored to /ILook.001/DA12002.asb
Opened output file '/ILookImager/ILook.001/DA12003.asb'
Continuing at byte 22496018432
Image is being stored to /ILook.001/DA12003.asb

Scanning for devices. Please wait...
User entered the Select Next Output Device Menu
Do you really want to abort this operation?
User selected: Yes
Image Aborted
Image was aborted.

Read : 50.66 GB (50659196928 bytes)
Written : 1.944 GB (1944057180 bytes)
Total Processed: 50.66 GB (50659131392 bytes)
Expected Size : 80.03 GB (80026361856 bytes)
Image Speed : 13.59 MB/sec
Elapsed Time : 1h 2m 9s
Bad Sectors : 0
Clearing computer memory...

Source SHA1 Hash: 655E98DB36A3F9C5C4CC8BF32B8C5B41AF9F52E

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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>AO-04 User notified if space exhausted.</td>
<td>as expected</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>as expected</td>
</tr>
</tbody>
</table>

Analysis: Expected results achieved

5.2.46 DA-13

Test Case DA-13 ILook IXImager Version 2.0, Feb 01 2006

Description: 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.

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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: Joe
Test Date: Fri May 5 13:59:05 2006
Drives: src(07) dst (8F-FU2) other (8D-FU2)

Source: src hash: 6559BDD36A3F9C5C4CCB3F32B85B41AF9F52E>
Model (WD WD800JD-32HK) serial # (WD-WMAJ91510044)

<table>
<thead>
<tr>
<th>N Start LBA</th>
<th>Length</th>
<th>Start C/H/S</th>
<th>End C/H/S</th>
<th>boot Partition type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 P 000000063</td>
<td>156280257</td>
<td>0000/001/01</td>
<td>1023/254/63</td>
<td>Boot 07 NTFS</td>
</tr>
<tr>
<td>2 P 000000000</td>
<td>000000000</td>
<td>0000/000/00</td>
<td>0000/000/00</td>
<td>00 empty entry</td>
</tr>
<tr>
<td>3 P 000000000</td>
<td>000000000</td>
<td>0000/000/00</td>
<td>0000/000/00</td>
<td>00 empty entry</td>
</tr>
<tr>
<td>4 P 000000000</td>
<td>000000000</td>
<td>0000/000/00</td>
<td>0000/000/00</td>
<td>00 empty entry</td>
</tr>
<tr>
<td>1 156280257 sectors 80026361856 bytes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Log Highlights: IXImager Log file
ata2: dev 0 ATA-6, max UDMA/133, 156301488 sectors: LBA
SCSI device sdb: 156301488 512-byte hdwr sectors (80026 MB)
SCSI device sdc: 78140160 512-byte hdwr sectors (40008 MB)
User selected IXImager Default Image Format
Initializing...

It appears your target device is significantly smaller than your source device. Even though you have compression enabled there is no guarantee that everything will compress to fit on your selected target device. If you choose to continue this operation, when your target device becomes full - you will need to change the output media to complete the operation.

Would you like to continue this operation anyway?
User selected: Yes

Opening output file '/ILookImager/ILook.001/DA13001.asb'
Beginning Image operation for 80026361856 bytes
Beginning Image operation
Beginning Image operation
Opening output file '/ILookImager/ILook.001/DA13002.asb'
continuing at byte 1287585792
Image is being stored to /ILook.001/DA13002.asb
Opening output file '/ILookImager/ILook.001/DA13003.asb'
continuing at byte 22494773248
Image is being stored to /ILook.001/DA13003.asb
Scanning for devices. Please wait...
User entered the Select Next Output Device Menu
Scanning for devices. Please wait...
Please wait while I check for media...
Checking target device...
User selected device '/dev/sdx' for output
Making an image of /dev/sdb
A 80.03 GB WDC WD800JD-32HK Hard Drive
Image is being stored to /dev/sdx1
A 400.1 GB Win95 FAT32 (LBA) Partition on Firewire0,1
Opening output file '/ILookImager/ILook.003/DA13004.asb'
continuing at byte 50657951744
Image is being stored to /ILook.003/DA13004.asb
Opening output file '/ILookImager/ILook.003/DA13005.asb'
continuing at byte 78822965248
Image is being stored to /ILook.003/DA13005.asb

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Test Case DA-13 ILook IXImager Version 2.0, Feb 01 2006

Image Complete
Image was completed successfully.

Read : 80.03 GB (80026361856 bytes)
Written : 2.620 GB (2619912273 bytes)
Total Processed: 80.03 GB (80026361856 bytes)
Image Speed : 7.681 MB/sec
Elapsed Time : 2h 53m 39s
Compression : 96.73%
Bad Sectors : 0
SHA-1 Value : 655e9bdcb36a3f9c5c4cc8bf32b8c5b41af9f52e
for 80026361856 bytes

Clearing computer memory...

Source SHA1 Hash: 655E9BDB36A3F9C5C4CC8BF32B8C5B41AF9F52E

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
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<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-04 User notified if space exhausted.</td>
<td>as expected</td>
</tr>
<tr>
<td>AO-05 Multifile image created.</td>
<td>as expected</td>
</tr>
<tr>
<td>AO-10 Image file continued on new device.</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>as expected</td>
</tr>
</tbody>
</table>

Analysis: Expected results achieved

5.2.47 DA-14-ATA28

Test Case DA-14-ATA28 ILook IXImager Version 2.0, Feb 01 2006

Description: 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: Paladin
Test Date: Fri Mar 31 11:05:56 2006
Drives:
src(41) dst (85) other (4D-FU2)

Source
Setup:

<table>
<thead>
<tr>
<th>Sector</th>
<th>Start LBA</th>
<th>Length</th>
<th>End LBA</th>
<th>Boot Partition Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>78125000</td>
<td>0000000000</td>
<td>0000000000</td>
<td>0000000000</td>
<td>0000000000</td>
</tr>
<tr>
<td>65534</td>
<td>0000000000</td>
<td>0000000000</td>
<td>0000000000</td>
<td>0000000000</td>
</tr>
<tr>
<td>65535</td>
<td>0000000000</td>
<td>0000000000</td>
<td>0000000000</td>
<td>0000000000</td>
</tr>
<tr>
<td>078107967</td>
<td>0000000000</td>
<td>0000000000</td>
<td>0000000000</td>
<td>0000000000</td>
</tr>
</tbody>
</table>

Log
Highlights:
Comparison of original to clone
Sectors compared: 78125000

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Results of IXImager V2 02/01/06
Test Case DA-14-ATA28 ILook IXimager Version 2.0, Feb 01 2006

Sectors match: 78125000
Sectors differ: 0
Bytes differ: 0
Diffs range
Source (78125000) has 78176488 fewer sectors than destination (156301488)
Zero fill: 0
Src Byte fill (41): 0
Dst Byte fill (85): 78176488
Other fill: 0
Other no fill: 0
Zero fill range:
Src fill range: 78125000-156301487
Other fill range:
Other not filled range:
0 source read errors, 0 destination read errors

IXImager Log file
hda: 156301488 sectors (80026 MB) w/2048KiB Cache, CHS=9729/255/63, UDMA(100)
SCSI device sda: 781443888 512-byte hdwr sectors (400099 MB)
Initializing...
Opened output device '/dev/hda'
Beginning Restore operation for 4000000000 bytes
Beginning Restore operation
Beginning Restore operation
Opened input file '/ILookImager/ILook.003/DA06ATA28002.asb'
continuing at byte 2094623104
Restoring from /ILook.003/DA06ATA28002.asb
Opened input file '/ILookImager/ILook.003/DA06ATA28003.asb'
continuing at byte 39117127680
Restoring from /ILook.003/DA06ATA28003.asb
Restore Complete
Restore was completed successfully.
Read : 1.316 GB (1316466855 bytes)
Written : 40.00 GB (40000000000 bytes)
Total Processed: 40.00 GB (40000000000 bytes)
Elapsed Time : 0h 17m 24s
Bad Sectors : 0
Clearing computer memory...

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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>
</tbody>
</table>

Analysis: Expected results achieved

5.2.48 DA-14-ATA48

Test Case DA-14-ATA48 ILook IXimager Version 2.0, Feb 01 2006

Description: 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.
Test Case DA-14-ATA48 ILook IXimager Version 2.0, Feb 01 2006

Tester Name: brl
Test Host: Paladin
Test Date: Thu Apr 6 09:29:09 2006
Drives: src(4C) dst (4D) other (4D-FU2)

Source
src hash: <8FF620D28EDCAFE841266AD56C8554EF72E6BF>
Setup: 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-WMAMR103111)

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 20003877344 bytes

Log
Highlights: Comparision of original to clone
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
Dest Byte fill (4D): 9765200
Other fill: 0
Other no fill: 0
Zero fill range:
Src fill range:
Dest fill range: 390721968-488397167
Other fill range:
Other not filled range:
0 source read errors, 0 destination read errors

IXImager Log file
hda: 488397168 sectors (250059 MB) w/8192KiB Cache, CHS=30401/255/63,
UDMA(100)
SCSI device sda: 781443888 512-byte hdwr sectors (400099 MB)
Initializing...
Opened output device '/dev/hda'
Beginning Restore operation for 200049647616 bytes
Beginning Restore operation
Beginning Restore operation
Opened input file '/ILookImager/ILook.011/DA06ATA484C002.asb'
continuing at byte 1272381440
Restoring from /ILook.011/DA06ATA484C002.asb
Opened input file '/ILookImager/ILook.011/DA06ATA484C003.asb'
continuing at byte 2261528416
Restoring from /ILook.011/DA06ATA484C003.asb
Opened input file '/ILookImager/ILook.011/DA06ATA484C004.asb'
continuing at byte 50719096832
Restoring from /ILook.011/DA06ATA484C004.asb
Opened input file '/ILookImager/ILook.011/DA06ATA484C005.asb'
continuing at byte 7888593376
Restoring from /ILook.011/DA06ATA484C005.asb
Opened input file '/ILookImager/ILook.011/DA06ATA484C006.asb'
continuing at byte 107048337408
Restoring from /ILook.011/DA06ATA484C006.asb
Opened input file '/ILookImager/ILook.011/DA06ATA484C007.asb'
continuing at byte 135214202880
Restoring from /ILook.011/DA06ATA484C007.asb
Opened input file '/ILookImager/ILook.011/DA06ATA484C008.asb'
continuing at byte 16338002816
Restoring from /ILook.011/DA06ATA484C008.asb
Opened input file '/ILookImager/ILook.011/DA06ATA484C009.asb'
continuing at byte 191545737216
Restoring from /ILook.011/DA06ATA484C009.asb
Restore Complete
Restore was completed successfully.
### DA-14-ATA48

**ILook IXimager Version 2.0, Feb 01 2006**

**Test Case Data**:
- **Read**: 5.380 GB (5379859104 bytes)
- **Written**: 200.0 GB (200049647616 bytes)
- **Total Processed**: 200.0 GB (200049647616 bytes)
- **Restore Speed**: 38.54 MB/sec
- **Elapsed Time**: 1h 26m 31s
- **Bad Sectors**: 0
- **Clearing computer memory...**

**Results**:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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>
</tbody>
</table>

**Analysis**: Expected results achieved

### 5.2.49 DA-14-CF

**Test Case DA-14-CF**

**ILook IXimager Version 2.0, Feb 01 2006**

**Description**: 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**: JohnSteed
**Test Date**: Wed May 10 16:34:22 2006
**Drives**: src (C1-CF) dst (C2-CF) other (4D-FU2)
**Source**
- src hash: 5B8235178DF99FA307430C088F81746606638A0B
- 503808 total sectors (257949696 bytes)
- Removable media, no partition table.

**Log Highlights**
- Comparison of original to clone
- Sectors compared: 503808
- Sectors match: 503808
- Sectors differ: 0
- Bytes differ: 0
- Diffs range
- 0 source read errors, 0 destination read errors
- IXImager Log file
  - hda: 156301488 sectors (80026 MB) w/8192KiB Cache, CHS=9729/255/63, UDMA(100)
  - SCSI device sda: 503808 512-byte hdwr sectors (258 MB)
  - SCSI device sdb: 781443888 512-byte hdwr sectors (400099 MB)
  - SCSI device sda: 503808 512-byte hdwr sectors (258 MB)
  - Initializing...
  - Opened output device '/dev/sda'
  - Beginning Restore operation for 257949696 bytes
  - Beginning Restore operation
  - Beginning Restore operation
  - Restore Complete
  - Restore was completed successfully.
- **Read**: 6.038 MB (6037753 bytes)
- **Written**: 257.9 MB (257949696 bytes)
- **Total Processed**: 257.9 MB (257949696 bytes)
Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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>
</tbody>
</table>

Analysis: Expected results achieved

5.2.50 DA-14-ENCRYPTED

Test Case DA-14-ENCRYPTED ILook IXimager Version 2.0, Feb 01 2006

Description: 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: Joe
Test Date: Thu May 4 14:55:47 2006

Drives: src(2A) dst (E6) other (4D-FU2)

Source
- src hash: < F5F9F2903DCAB895F36E270FE22A722E27918125 >
- 17781249 total sectors (910523488 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 000000000 000000000 0000/000/00 0000/000/00 00 empty entry
  - 2 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry
  - 3 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry
  - 4 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry
- 1 017751762 sectors 9088902144 bytes

Log
- Comparison of original to clone
- Sectors compared: 17783249
- Sectors match: 17783249
- Sectors differ: 0
- Bytes differ: 0
- Diffs range
  - Source (17783249) has 18060421 fewer sectors than destination (35843670)
  - Zero fill: 0
  - Src Byte fill (2A): 0
  - Dst Byte fill (E6): 18060421
  - Other fill: 0
  - Other no fill: 0
  - Zero fill range: 0
  - Src fill range: 0
  - Dst fill range: 0
  - Other fill range: 0
  - Other not filled range: 0

IXImager Log file
- SCSI device sdb: 17783249 512-byte hdwr sectors (9105 MB)
- SCSI device sdc: 35843670 512-byte hdwr sectors (18352 MB)
SCSI device sdd: 781443888 512-byte hdwr sectors (400099 MB)
SCSI device sdc: 35843670 512-byte hdwr sectors (18352 MB)

Initializing...
Opened output device '/dev/sdc'
Beginning Restore operation for 9105023488 bytes
Beginning Restore operation
Beginning Restore operation
Restore Complete
Restore was completed successfully.

Read : 609.1 MB (609137424 bytes)
Written : 9.105 GB (9105023488 bytes)
Total Processed: 9.105 GB (9105023488 bytes)
Restore Speed : 30.97 MB/sec
Elapsed Time : 0h 4m 54s
Bad Sectors : 0
Clearing computer memory...

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
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<tbody>
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<td>AO-23 Logged information is correct.</td>
<td>as expected</td>
</tr>
</tbody>
</table>

Analysis: Expected results achieved

5.2.51 DA-14-F12

Test Case DA-14-F12 IXimager Version 2.0, Feb 01 2006

Description: 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: Joe
Test Date: Mon Apr 24 14:28:18 2006
Drives: src(43) dst (2F) other (4D-FU2)

Source: arc hash: < 888E2E7F7AD237DC7A732281DD93F325065ES871 >
Setup:

<table>
<thead>
<tr>
<th>Drive</th>
<th>Start LBA</th>
<th>Length</th>
<th>Start C/H/S</th>
<th>End C/H/S</th>
<th>Boot Partition type</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>000000063</td>
<td>20980827</td>
<td>0000/001/01</td>
<td>1023/254/63</td>
<td>OC Fat32X</td>
</tr>
<tr>
<td>1 P</td>
<td>000000063</td>
<td>20980827</td>
<td>0000/001/01</td>
<td>1023/254/63</td>
<td>OC Fat32X</td>
</tr>
<tr>
<td>2 X</td>
<td>020980809</td>
<td>05714209</td>
<td>1023/000/01</td>
<td>1023/254/63</td>
<td>0F extended</td>
</tr>
<tr>
<td>3 S</td>
<td>000032130</td>
<td>00032067</td>
<td>0000/001/01</td>
<td>1023/254/63</td>
<td>01 Fat12</td>
</tr>
<tr>
<td>4 X</td>
<td>00032067</td>
<td>00032130</td>
<td>0000/001/01</td>
<td>1023/254/63</td>
<td>05 extended</td>
</tr>
<tr>
<td>5 S</td>
<td>000032130</td>
<td>00032067</td>
<td>0000/001/01</td>
<td>1023/254/63</td>
<td>06 Fat16</td>
</tr>
<tr>
<td>6 x</td>
<td>021236645</td>
<td>004192965</td>
<td>1023/000/01</td>
<td>1023/254/63</td>
<td>05 extended</td>
</tr>
<tr>
<td>7 S</td>
<td>000032063</td>
<td>004192902</td>
<td>1023/000/01</td>
<td>1023/254/63</td>
<td>16 other</td>
</tr>
<tr>
<td>8 X</td>
<td>006329610</td>
<td>00840199</td>
<td>1023/000/01</td>
<td>1023/254/63</td>
<td>05 extended</td>
</tr>
<tr>
<td>9 S</td>
<td>000000063</td>
<td>008401932</td>
<td>1023/000/01</td>
<td>1023/254/63</td>
<td>08 Fat32</td>
</tr>
<tr>
<td>10 x</td>
<td>014731605</td>
<td>01490445</td>
<td>1023/000/01</td>
<td>1023/254/63</td>
<td>05 extended</td>
</tr>
<tr>
<td>11 S</td>
<td>000000063</td>
<td>01490382</td>
<td>1023/000/01</td>
<td>1023/254/63</td>
<td>83 Linux</td>
</tr>
<tr>
<td>12 X</td>
<td>025222050</td>
<td>00420930</td>
<td>1023/000/01</td>
<td>1023/254/63</td>
<td>05 extended</td>
</tr>
<tr>
<td>13 S</td>
<td>000000063</td>
<td>042098967</td>
<td>1023/000/01</td>
<td>1023/254/63</td>
<td>82 Linux swap</td>
</tr>
<tr>
<td>14 x</td>
<td>029431080</td>
<td>027712125</td>
<td>1023/000/01</td>
<td>1023/254/63</td>
<td>05 extended</td>
</tr>
<tr>
<td>15 S</td>
<td>000000063</td>
<td>027712062</td>
<td>1023/000/01</td>
<td>1023/254/63</td>
<td>07 NTFS</td>
</tr>
<tr>
<td>16 S</td>
<td>000000000</td>
<td>000000000</td>
<td>0000/000/00</td>
<td>0000/000/00</td>
<td>00 empty entry</td>
</tr>
</tbody>
</table>
Log

SCSI device sdb: 17783249 512-byte hdwr sectors (9105 MB)
SCSI device sdc: 78125000 512-byte hdwr sectors (40000 MB)
SCSI device sdd: 781443888 512-byte hdwr sectors (400099 MB)
SCSI device sdb: 17783249 512-byte hdwr sectors (9105 MB)
Initializing...
Opened output device '/dev/sdb'
Beginning Restore operation for 16418304 bytes
Beginning Restore operation
Beginning Restore operation
Restore Complete

Read : 593.0 kB (593021 bytes)
Written : 16.42 MB (16418304 bytes)
Total Processed: 16.42 MB (16418304 bytes)
Restore Speed : 8.209 MB/sec
Elapsed Time : 0h 0m 2s
Bad Sectors : 0
Clearing computer memory...

Hashes of src and dst partitions
Src SHA1 Hash: 6853B517F50BF3CCADED3DB5FEAE08C18C62FCA0 -
Dst SHA1 Hash: 6853B517F50BF3CCADED3DB5FEAE08C18C62FCA0 -

Results:

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<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
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<tr>
<td>AO-12 A clone is created from an image file.</td>
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<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>
</tbody>
</table>

Analysis: Expected results achieved

5.2.52 DA-14-F16
Test Case DA-14-F16 ILook IXimager Version 2.0, Feb 01 2006

Setup: 78165360 total sectors (4002664320 bytes)
65534/015/63 (max cyl/hd values)
65535/016/63 (number of cyl/hd)
IDE disk: Model (WD/WDC WD400JB-00FMA0) serial # (WD-WMAJC101131)

<table>
<thead>
<tr>
<th>N</th>
<th>Start LBA Length Start C/H/S End C/H/S</th>
<th>boot</th>
<th>Partition type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0000000063 000000063 020980827 0000/001/01 1023/254/63</td>
<td>0F</td>
<td>extended</td>
</tr>
<tr>
<td>2</td>
<td>0000000063 000000063 020980890 0571/057/63</td>
<td>05</td>
<td>extended</td>
</tr>
<tr>
<td>3</td>
<td>0000000063 000000063 020980495 0102/013/63</td>
<td>01</td>
<td>Fat16</td>
</tr>
<tr>
<td>4</td>
<td>0000000063 000000063 020980512 0102/013/63</td>
<td>05</td>
<td>extended</td>
</tr>
<tr>
<td>5</td>
<td>0000000063 000000063 020980519 0102/013/63</td>
<td>06</td>
<td>Fat16</td>
</tr>
<tr>
<td>6</td>
<td>0000000063 000000063 020980526 0102/013/63</td>
<td>05</td>
<td>extended</td>
</tr>
<tr>
<td>7</td>
<td>0000000063 000000063 020980533 0102/013/63</td>
<td>16</td>
<td>other</td>
</tr>
<tr>
<td>8</td>
<td>0000000063 000000063 020980540 0102/013/63</td>
<td>05</td>
<td>extended</td>
</tr>
<tr>
<td>9</td>
<td>0000000063 000000063 020980547 0102/013/63</td>
<td>0B</td>
<td>Fat32</td>
</tr>
<tr>
<td>10</td>
<td>0000000063 000000063 020980554 0102/013/63</td>
<td>05</td>
<td>extended</td>
</tr>
<tr>
<td>11</td>
<td>0000000063 000000063 020980561 0102/013/63</td>
<td>83</td>
<td>Linux</td>
</tr>
<tr>
<td>12</td>
<td>0000000063 000000063 020980568 0102/013/63</td>
<td>05</td>
<td>extended</td>
</tr>
<tr>
<td>13</td>
<td>0000000063 000000063 020980575 0102/013/63</td>
<td>82</td>
<td>Linux swap</td>
</tr>
<tr>
<td>14</td>
<td>0000000063 000000063 020980582 0102/013/63</td>
<td>05</td>
<td>extended</td>
</tr>
<tr>
<td>15</td>
<td>0000000063 000000063 020980589 0102/013/63</td>
<td>07</td>
<td>NTFS</td>
</tr>
<tr>
<td>16</td>
<td>0000000063 000000063 020980596 0102/013/63</td>
<td>00</td>
<td>empty entry</td>
</tr>
<tr>
<td>17</td>
<td>0000000063 000000063 020980603 0102/013/63</td>
<td>00</td>
<td>empty entry</td>
</tr>
<tr>
<td>18</td>
<td>0000000063 000000063 020980610 0102/013/63</td>
<td>00</td>
<td>empty entry</td>
</tr>
</tbody>
</table>

1 020980827 sectors 10742183424 bytes
3 0000032067 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: IXImager Log file

SCSI device sdb: 17783249 512-byte hdwr sectors (9105 MB)
SCSI device sdc: 78165360 512-byte hdwr sectors (40021 MB)
SCSI device sdd: 781443888 512-byte hdwr sectors (400099 MB)
SCSI device sdb: 17783249 512-byte hdwr sectors (9105 MB)

Initializing...

Opened output device '/dev/sdb'

Beginning Restore operation for 1077479424 bytes

Beginning Restore operation

Beginning Restore operation

Restore Complete

Restore was completed successfully.

Read : 24.93 MB (24932422 bytes)
Written : 1.077 GB (1077479424 bytes)
Total Processed: 1.077 GB (1077479424 bytes)
Restore Speed : 13.30 MB/sec
Elapsed Time : 0h 1m 21s
Bad Sectors : 0

clearing computer memory...

Hashes of src and dst partitions
Src SHA1 Hash: F26795072562849A38BB46C94AA54B7DA65660 -
Dst SHA1 Hash: F26795072562849A38BB46C94AA54B7DA65660 -

Results:

<table>
<thead>
<tr>
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</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 A1.</td>
<td>as expected</td>
</tr>
<tr>
<td>AO-14 An unaligned clone is created.</td>
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</tr>
<tr>
<td>AO-17 Excess sectors are unchanged.</td>
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</tr>
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</tr>
</tbody>
</table>

Analysis: Expected results achieved

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**Test Case DA-14-F32**

**ILook IXImager Version 2.0, Feb 01 2006**

**Description:** 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:** Joe
**Test Date:** Mon Apr 24 17:04:40 2006
**Drives:**
- src(43) dst (2F) other (4D-FU2)

**Source**
src hash: < 888E2E7F7AD273281DD9F325065E871 >

**Setup**
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 00032067 1023/000/01 1023/254/63 01 Fat12
4 S 00000032130 002104515 1023/000/01 1023/254/63 05 extended
5 S 000000663 002104452 1023/000/01 1023/254/63 06 Fat16
6 X 002136645 004192965 1023/000/01 1023/254/63 05 extended
7 S 000000663 041392902 1023/000/01 1023/254/63 16 other
8 x 006329610 008401995 1023/000/01 1023/254/63 05 extended
9 S 000000063 08401932 1023/000/01 1023/254/63 0B Fat32
10 X 014731605 010490382 1023/000/01 1023/254/63 05 extended
11 S 000000063 01490445 1023/000/01 1023/254/63 83 Linux
12 X 025222050 004208967 1023/000/01 1023/254/63 05 extended
13 S 000000063 025222050 1023/000/01 1023/254/63 82 Linux swap
14 X 029431080 027712125 1023/000/01 1023/254/63 05 extended
15 S 000000063 027712062 1023/000/01 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 00032067 sectors 16418304 bytes
5 002104452 sectors 1077479424 bytes
7 004192902 sectors 14188575744 bytes
9 008401932 sectors 2154991104 bytes
11 010490382 sectors 1738534384 bytes
13 004208967 sectors 2154991104 bytes
15 027712062 sectors 14388575744 bytes

**Log Highlights:**
IXImager Log file
SCSI device sdb: 17783249 512-byte hdwr sectors (9105 MB)
SCSI device sdc: 78125000 512-byte hdwr sectors (4000000 bytes)
SCSI device sdd: 78125000 512-byte hdwr sectors (4000000 bytes)
SCSI device sdb: 17783249 512-byte hdwr sectors (9105 MB)
Initializing...
Opened output device '/dev/sdb'
Beginning Restore operation for 4301789184 bytes
Beginning Restore operation
Beginning Restore operation
Restore Complete
Restore was completed successfully.

Read : 98.98 MB (98984710 bytes)
Written : 4.302 GB (4301789184 bytes)
Total Processed: 4.302 GB (4301789184 bytes)
Restore Speed : 13.04 MB/sec
Elapsed Time : 0h 5m 30s
Bad Sectors : 0
Clearing computer memory...
Hashes of src and dst partitions
Src SHA1 Hash: 72462489BCF79A98B59B6A8CD938FEB46FA2A781 -
Dst SHA1 Hash: 72462489BCF79A98B59B6A8CD938FEB46FA2A781 -

Results:

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</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>
</tbody>
</table>

Analysis: Expected results achieved

5.2.54 DA-14-F32X

Test Case DA-14-F32X ILook IXimager Version 2.0, Feb 01 2006

Description: 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: Max
Test Date: Mon Apr 24 14:19:41 2006
Drives: src(44) dst (E6) other (4D-FU2)

Source
src hash: < E196D36E7B32C0EF83923112AD1800581742B6E >

IDE disk: Model (WD400JB-00FMA0) serial # (WD-WMAJC1011319)
N Start LBA Length Start C/H/S End C/H/S boot Partition type
1 P 0000000000 020980827 0000/001/01 1023/254/63 0C Fat32X
2 X 020980890 057175335 1023/000/01 1023/254/63 0F extended
3 S 000000063 00032067 1023/001/01 1023/254/63 01 Fat12
4 X 000032130 002104515 1023/001/01 1023/254/63 05 extended
5 S 0000000063 00104452 1023/001/01 1023/254/63 06 Fat16
6 X 002136645 004192965 1023/001/01 1023/254/63 05 extended
7 S 000000063 00192902 1023/001/01 1023/254/63 16 other
8 X 006329610 008401995 1023/001/01 1023/254/63 05 extended
9 S 0000000063 008401932 1023/001/01 1023/254/63 0B Fat32
10 X 014731605 010490445 1023/001/01 1023/254/63 05 extended
11 S 0000000063 010490382 1023/001/01 1023/254/63 83 Linux
12 X 025222050 004209030 1023/001/01 1023/254/63 05 extended
13 S 000000063 004208967 1023/001/01 1023/254/63 82 Linux swap
14 X 029431080 027744255 1023/001/01 1023/254/63 05 extended
15 S 0000000063 027744192 1023/001/01 1023/254/63 07 NTFS
16 S 0000000000 00000000 0000/000/00 0000/000/00 00 empty entry
17 P 0000000000 00000000 0000/000/00 0000/000/00 00 empty entry
18 P 0000000000 00000000 0000/000/00 0000/000/00 00 empty entry
1 020980827 sectors 10742183424 bytes
3 00032067 sectors 16418304 bytes
5 002104515 sectors 164179424 bytes
7 004209030 sectors 2146765824 bytes
9 008401932 sectors 4301789184 bytes
11 010490445 sectors 5371705584 bytes
13 004208967 sectors 2154991104 bytes
15 027744192 sectors 14205026304 bytes

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Results of IXimager V2 02/01/06
### Test Case DA-14-F32X

**ILook IXimager Version 2.0, Feb 01 2006**

**Log**

**Highlights:**

- SCSI device sdb: 35843670 512-byte hdwr sectors (18352 MB)
- SCSI device sdc: 78165360 512-byte hdwr sectors (40021 MB)
- SCSI device sdd: 781443888 512-byte hdwr sectors (400099 MB)

**SCSI device sdb:**

- Initializing...
- Opened output device '/dev/sdb'
- Beginning Restore operation for 10742183424 bytes
- Beginning Restore operation
- Beginning Restore operation
- Restore Complete
- Restore was completed successfully.

**Read:** 247.0 MB (247043065 bytes)

**Written:** 10.74 GB (10742183424 bytes)

**Total Processed:** 10.74 GB (10742183424 bytes)

**Restore Speed:** 31.59 MB/sec

**Elapsed Time:** 0h 5m 40s

**Bad Sectors:** 0

**Clearing computer memory...**

**Hashes of src and dst partitions**

- **Src SHA1 Hash:** D190A47B60A17FE6912CA26BE237E923AD592FAE -
- **Dst SHA1 Hash:** D190A47B60A17FE6912CA26BE237E923AD592FAE -

**Results:**

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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>
</tbody>
</table>

**Analysis:**

- Expected results achieved

---

### 5.2.55 DA-14-FIREWIRE

**Test Case DA-14-FIREWIRE**

**ILook IXimager Version 2.0, Feb 01 2006**

**Description:**

- **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:** JohnSteed

**Test Date:** Tue Apr 4 13:45:04 2006

**Drives:**

- src (83-FU2) dst (84-FU2) other (4D-FU2)

**Source**

- src hash: < 9B0D0FEA3023476FA5D24436C0CEFCB585EB8695 >
- 160836480 total sectors (8234827760 bytes)
- 10010/254/63 (max cyl/hd values)
- 10011/255/63 (number of cyl/hd)
- Model (HDS722580VLAT20 ) serial # ()

**Log**

**Highlights:**

- Comparision of original to clone
- Sectors compared: 160836480
- Sectors match: 160836480
- Sectors differ: 0
- Bytes differ: 0

---

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Diffs range
0 source read errors, 0 destination read errors

IXImager Log file
hda: 156301488 sectors (80026 MB) w/8192KiB Cache, CHS=9729/255/63, UDMA(100)
SCSI device sda: 160836480 512-byte hdwr sectors (82348 MB)
SCSI device sdb: 781443888 512-byte hdwr sectors (400099 MB)
SCSI device sda: 160836480 512-byte hdwr sectors (82348 MB)
Initializing...
Opened output device '/dev/sda'
Beginning Restore operation for 82348277760 bytes
Beginning Restore operation
Beginning Restore operation
Opened input file '/IXImager/IXImager.009/DA06FIREWIRE002.asb'
continuing at byte 28172419072
Restoring from /IXImager.009/DA06FIREWIRE002.asb
Opened input file '/IXImager/IXImager.009/DA06FIREWIRE003.asb'
continuing at byte 56340840448
Restoring from /IXImager.009/DA06FIREWIRE003.asb
Restore Complete
Restore was completed successfully.

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM-03 Execution environment is XE.</td>
<td>as expected</td>
</tr>
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</tr>
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<td>AO-13 Clone created using interface AI.</td>
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</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>
</tbody>
</table>

Analysis: Expected results achieved

5.2.56 DA-14-FLOPPY

Test Case DA-14-FLOPPY IXImager Version 2.0, Feb 01 2006

Description: 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: JohnSteed
Test Date: Wed May 3 13:47:57 2006
Drives: src(floppy) dat (destination-floppy) other (4D-FU2)
Source Setup: src hash: < E2863334AC78AAAC7C8A0D62EBD3AF29F2C40 > Floppy disk
Log Highlights: IXImager Log file
hda: 156301488 sectors (80026 MB) w/8192KiB Cache, CHS=9729/255/63, UDMA(100)
SCSI device sda: 160836480 512-byte hdwr sectors (82348 MB)
Test Case DA-14-FLOPPY ILook IXimager Version 2.0, Feb 01 2006

Initializing...
Checking ILook IXimager file header...
Opened output device '/dev/fd0'
Beginning Restore operation for 1474560 bytes
Beginning Restore operation
Beginning Restore operation
Restore Complete
Restore was completed successfully.

Read : 141.8 kb (141815 bytes)
Written : 1.475 MB (1474560 bytes)
Total Processed: 1.475 MB (1474560 bytes)
Elapsed Time : 0h 0m 53s
Bad Sectors : 0
Clearing computer memory...

Source SHA1 Hash: E2863334AC7EAAABC7C8A0D62EB0D3B3AP29F2C40

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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>
</tbody>
</table>

Analysis: Expected results achieved

5.2.57 DA-14-HIDDEN

Test Case DA-14-HIDDEN ILook IXimager Version 2.0, Feb 01 2006

Description: 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: Max
Test Date: Mon Apr 24 17:25:31 2006
Drives: src(44) dst (2C) other (4D-FU2)
Source
Set up: src hash: < E196D36E7B32C00EF83923112AD1800581742B6E >
78165360 total sectors (40020664320 bytes)
65534/015/63 (max cyl/hd values)
65535/016/63 (number of cyl/hd)
IDE disk: Model (WDC WD400JB-00PMA0) serial # (WD-WMAJC1011319)
N   Start LBA Length Start C/H/S End C/H/S boot Partition type
 1 P 000000063 020980827 0000/01/01 1023/254/63 0C Fat32X
 2 X 020980890 05715335 1023/000/01 1023/254/63 0F extended
 3 S 000000063 0032067 1023/001/01 1023/254/63 01 Fat12
 4 x 000003210 002104515 1023/000/01 1023/254/63 05 extended
 5 S 000000063 02104452 1023/001/01 1023/254/63 06 Fat16
 6 x 002136645 004192965 1023/000/01 1023/254/63 05 extended
 7 S 000000063 04192902 1023/001/01 1023/254/63 16 other
 8 x 006329610 004208995 1023/000/01 1023/254/63 05 extended
 9 S 000000063 08420932 1023/001/01 1023/254/63 0B Fat32
10 x 014731605 004209445 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 04209867 1023/001/01 1023/254/63 82 Linux swap

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### Test Case DA-14-HIDDEN ILook IXImager Version 2.0, Feb 01 2006

<table>
<thead>
<tr>
<th>Sector Count</th>
<th>Size in Bytes</th>
</tr>
</thead>
<tbody>
<tr>
<td>14 x 029431080</td>
<td>027744255 1023/000/01 1023/254/63</td>
</tr>
<tr>
<td>15 S 0000000063</td>
<td>027744192 1023/001/01 1023/254/63</td>
</tr>
<tr>
<td>16 S 0000000000 0000000000 0000/000/00 0000/000/00</td>
<td>00 empty entry</td>
</tr>
<tr>
<td>17 P 0000000000 0000000000 0000/000/00 0000/000/00</td>
<td>00 empty entry</td>
</tr>
<tr>
<td>18 P 0000000000 0000000000 0000/000/00 0000/000/00</td>
<td>00 empty entry</td>
</tr>
<tr>
<td>1 020980827 sectors 10742183424 bytes</td>
<td></td>
</tr>
<tr>
<td>2 000032067 sectors 16418304 bytes</td>
<td></td>
</tr>
<tr>
<td>3 002104452 sectors 1077479424 bytes</td>
<td></td>
</tr>
<tr>
<td>4 004192902 sectors 2146765824 bytes</td>
<td></td>
</tr>
<tr>
<td>5 010490382 sectors 5371075584 bytes</td>
<td></td>
</tr>
<tr>
<td>6 004208967 sectors 2154991104 bytes</td>
<td></td>
</tr>
<tr>
<td>7 027744192 sectors 14205026304 bytes</td>
<td></td>
</tr>
</tbody>
</table>

### Log Highlights: IXImager Log file

- **SCSI device sdb:** 17783249 512-byte hdwr sectors (9105 MB)
- **SCSI device sdc:** 78165360 512-byte hdwr sectors (40021 MB)
- **SCSI device sdd:** 781443888 512-byte hdwr sectors (400099 MB)

**Initializing...**

**Opened output device** '/dev/sdb'

**Beginning Restore operation for 2146765824 bytes**

**Beginning Restore operation**

**Beginning Restore operation**

**Restore Complete**

**Restore was completed successfully.**

- **Read** : 49.54 MB (49537184 bytes)
- **Written** : 2.147 GB (2146765824 bytes)
- **Total Processed:** 2.147 GB (2146765824 bytes)
- **Restore Speed** : 13.25 MB/sec
- **Elapsed Time** : 0h 2m 42s
- **Bad Sectors** : 0

**Clearing computer memory...**

**Hashes of src and dst partitions**

**Src SHA1 Hash:** 0893C80EDCDE9074FD139B67FB6DB3CE9390C550 -

**Dst SHA1 Hash:** 0893C80EDCDE9074FD139B67FB6DB3CE9390C550 -

### Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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>
</tbody>
</table>

### Analysis:

**Expected results achieved**

5.2.58 **DA-14-HOT**

### Test Case DA-14-HOT ILook IXImager Version 2.0, Feb 01 2006

**Description:** 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:** Joe

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Test Case DA-14-HOT ILook IXimager Version 2.0, Feb 01 2006

Test Date: Wed May 10 13:05:37 2006
Drives: src(07) dst (17) other (8F-FU2+8D-FU2)

Source
Setup:
- src hash: < 655E9BDDB36A3F9C5C4CC8BF32B8C5B41AF9F52E>
- 156301488 total sectors (80026361856 bytes)
- Model (WDC WD800JD-32HK) serial # (WD-WMAJ91510044)

N Start LBA Length Start C/H/S End C/H/S boot Partition type
1 P 00000000 156280257 0000/001/01 1023/254/63 Boot NTFS
2 P 00000000 000000000 0000/000/00 0000/000/00 empty entry
3 P 00000000 000000000 0000/000/00 0000/000/00 empty entry
4 P 00000000 000000000 0000/000/00 0000/000/00 empty entry
1 156280257 sectors 80015491584 bytes

Log
Highlights: Comparison of original to clone
Sectors compared: 156301488
Sectors match: 156301488
Sectors differ: 0
Bytes differ: 0
Diffs range
Source (156301488) has 78140160 fewer sectors than destination (234441648)
Zero fill: 0
Src Byte fill (07): 0
Dst Byte fill (17): 78140160
Other fill: 0
Other no fill: 0
Zero fill range:
Src fill range:
Dst fill range: 156301488-234441647
Other fill range:
Other not filled range:
0 source read errors, 0 destination read errors

IXImager Log file
ata1: dev 0 ATA-6, max UDMA/100, 234441648 sectors: LBA48
SCSI device sdb: 234441648 512-byte hdwr sectors (120034 MB)
SCSI device sdc: 78140160 512-byte hdwr sectors (40008 MB)
SCSI device sdd: 781422768 512-byte hdwr sectors (40008 MB)
SCSI device sdb: 234441648 512-byte hdwr sectors (120034 MB)
Initializing...
Opened output device '/dev/sdb'
Beginning Restore operation for 80026361856 bytes
Beginning Restore operation
Beginning Restore operation
Opened input file '/ILookImager/ILook.001/DA13002.asb'
continuing at byte 1285554176
Restoring from /ILook.001/DA13002.asb
Opened input file '/ILookImager/ILook.001/DA13003.asb'
continuing at byte 22492741632
Restoring from /ILook.001/DA13003.asb
Searching for files. Please wait...
Scanning for devices. Please wait...
User entered the Select Next Input Device Menu
Please wait while I check for media...
Checking source device...
User selected device '/dev/sdd'
Restoring from /dev/sdd1
A 400.1 GB Win95 FAT32 (LBA) Partition on Firewire0,1
Restoring to /dev/sdb
A 120.0 GB WDC WD1200JD-00G Hard Drive
Searching for files. Please wait...
User entered the Select Image menu
User entered 'ILook.003'
User exited the Select Image Menu
Opened input file '/ILookImager/ILook.003/DA13004.asb'
continuing at byte 50655920128
Restoring from /ILook.003/DA13004.asb
Opened input file '/ILookImager/ILook.003/DA13005.asb'
continuing at byte 78820933632
Restoring from /ILook.003/DA13005.asb
Restore Complete
Restore was completed successfully.

Read: 2.620 GB (2619912273 bytes)
### Test Case DA-14-HOT

**ILook IXimager Version 2.0, Feb 01 2006**

- **Written**: 80.03 GB (80026361856 bytes)
- **Total Processed**: 80.03 GB (80026361856 bytes)
- **Restore Speed**: 21.25 MB/sec
- **Elapsed Time**: 1h 2m 46s
- **Bad Sectors**: 0

*Clearing computer memory...*

#### Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM-03 Execution environment is XB.</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>
</tbody>
</table>

**Analysis**: Expected results achieved

### 5.2.59 DA-14-NT

**Test Case DA-14-NT ILook IXimager Version 2.0, Feb 01 2006**

**Description**: DA-14 Create an unaligned clone from an image file.

**Assertions**:
- AM-03 The tool executes in execution environment XB.
- 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**: Joe
**Test Date**: Tue Apr 25 09:42:25 2006
**Drives**: src(43) dst (E6) other (4D-FU2)

<table>
<thead>
<tr>
<th>Source</th>
<th>Setup</th>
<th>Source Hash:</th>
<th>Model (BB-75JHC0)</th>
<th>Driver (43)</th>
<th>Datser (EB)</th>
<th>Other (4D-FU2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>src</td>
<td>Setup</td>
<td>78125000 total sectors (4000000000 bytes)</td>
<td>WD-MMAC64588</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>Start LBA</td>
<td>Length</td>
<td>Start C/H/S</td>
<td>End C/H/S</td>
<td>boot</td>
<td>Partition type</td>
</tr>
<tr>
<td>1 P</td>
<td>0000000063</td>
<td>020980827</td>
<td>0000/001/01</td>
<td>1023/254/63</td>
<td>0C</td>
<td>Pat32X</td>
</tr>
<tr>
<td>2 S</td>
<td>000000063</td>
<td>000320677</td>
<td>0000/001/01</td>
<td>1023/254/63</td>
<td>01</td>
<td>Fat12</td>
</tr>
<tr>
<td>4 x</td>
<td>0000032130</td>
<td>002104515</td>
<td>0000/001/01</td>
<td>1023/254/63</td>
<td>05</td>
<td>extended</td>
</tr>
<tr>
<td>5 S</td>
<td>000000063</td>
<td>02104452</td>
<td>0000/001/01</td>
<td>1023/254/63</td>
<td>06</td>
<td>Fat16</td>
</tr>
<tr>
<td>6 x</td>
<td>020980827</td>
<td>04192965</td>
<td>0000/001/01</td>
<td>1023/254/63</td>
<td>05</td>
<td>extended</td>
</tr>
<tr>
<td>7 S</td>
<td>000000063</td>
<td>04192902</td>
<td>0000/001/01</td>
<td>1023/254/63</td>
<td>16</td>
<td>other</td>
</tr>
<tr>
<td>8 x</td>
<td>006329610</td>
<td>08401995</td>
<td>0000/001/01</td>
<td>1023/254/63</td>
<td>05</td>
<td>extended</td>
</tr>
<tr>
<td>9 S</td>
<td>000000063</td>
<td>08401932</td>
<td>0000/001/01</td>
<td>1023/254/63</td>
<td>0B</td>
<td>Fat32</td>
</tr>
<tr>
<td>10 x</td>
<td>014731605</td>
<td>010490445</td>
<td>0000/001/01</td>
<td>1023/254/63</td>
<td>05</td>
<td>extended</td>
</tr>
<tr>
<td>11 S</td>
<td>000000063</td>
<td>01490382</td>
<td>0000/001/01</td>
<td>1023/254/63</td>
<td>83</td>
<td>Linux</td>
</tr>
<tr>
<td>12 x</td>
<td>025222050</td>
<td>04209030</td>
<td>0000/001/01</td>
<td>1023/254/63</td>
<td>05</td>
<td>extended</td>
</tr>
<tr>
<td>13 S</td>
<td>000000063</td>
<td>04208967</td>
<td>0000/001/01</td>
<td>1023/254/63</td>
<td>82</td>
<td>Linux swap</td>
</tr>
<tr>
<td>14 x</td>
<td>029431080</td>
<td>027712125</td>
<td>0000/001/01</td>
<td>1023/254/63</td>
<td>05</td>
<td>extended</td>
</tr>
<tr>
<td>15 S</td>
<td>000000063</td>
<td>027712062</td>
<td>0000/001/01</td>
<td>1023/254/63</td>
<td>07</td>
<td>NTFS</td>
</tr>
<tr>
<td>16 S</td>
<td>000000000</td>
<td>000000000</td>
<td>0000/000/00</td>
<td>0000/000/00</td>
<td>00</td>
<td>empty entry</td>
</tr>
<tr>
<td>17 P</td>
<td>000000000</td>
<td>000000000</td>
<td>0000/000/00</td>
<td>0000/000/00</td>
<td>00</td>
<td>empty entry</td>
</tr>
<tr>
<td>18 P</td>
<td>000000000</td>
<td>000000000</td>
<td>0000/000/00</td>
<td>0000/000/00</td>
<td>00</td>
<td>empty entry</td>
</tr>
<tr>
<td>19 P</td>
<td>000000000</td>
<td>000000000</td>
<td>0000/000/00</td>
<td>0000/000/00</td>
<td>00</td>
<td>empty entry</td>
</tr>
<tr>
<td>102980827 sectors</td>
<td>10742183424 bytes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 000320677 sectors</td>
<td>16418304 bytes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 002104515 sectors</td>
<td>1077497424 bytes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 002104452 sectors</td>
<td>2146765824 bytes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 008401932 sectors</td>
<td>1077497424 bytes</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>11 010490382 sectors</td>
<td>5371075584 bytes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13 020980827 sectors</td>
<td>2154991104 bytes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 027712062 sectors</td>
<td>14188575744 bytes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Results of IXimager V2 02/01/06
### Test Case DA-14-NT

**ILook IXimager Version 2.0, Feb 01 2006**

<table>
<thead>
<tr>
<th>Log Highlights:</th>
<th>IXImager Log file</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SCSI device sdb: 35843670 512-byte hdwr sectors (18352 MB)</td>
</tr>
<tr>
<td></td>
<td>SCSI device sdc: 78125000 512-byte hdwr sectors (40000 MB)</td>
</tr>
<tr>
<td></td>
<td>SCSI device sdd: 78143888 512-byte hdwr sectors (40009 MB)</td>
</tr>
<tr>
<td></td>
<td>SCSI device sdb: 35843670 512-byte hdwr sectors (18352 MB)</td>
</tr>
<tr>
<td></td>
<td>Initializing...</td>
</tr>
<tr>
<td></td>
<td>Opened output device '/dev/sdb'</td>
</tr>
<tr>
<td></td>
<td>Beginning Restore operation for 14188575744 bytes</td>
</tr>
<tr>
<td></td>
<td>Beginning Restore operation</td>
</tr>
<tr>
<td></td>
<td>Beginning Restore operation</td>
</tr>
<tr>
<td></td>
<td>Restore Complete</td>
</tr>
<tr>
<td></td>
<td>Restore was completed successfully.</td>
</tr>
<tr>
<td></td>
<td>Read: 324.5 MB (324528081 bytes)</td>
</tr>
<tr>
<td></td>
<td>Written: 14.19 GB (14188575744 bytes)</td>
</tr>
<tr>
<td></td>
<td>Total Processed: 14.19 GB (14188575744 bytes)</td>
</tr>
<tr>
<td></td>
<td>Restore Speed: 31.88 MB/sec</td>
</tr>
<tr>
<td></td>
<td>Elapsed Time: 0h 7m 25s</td>
</tr>
<tr>
<td></td>
<td>Bad Sectors: 0</td>
</tr>
<tr>
<td></td>
<td>Clearing computer memory...</td>
</tr>
<tr>
<td></td>
<td>Hashes of src and dst partitions</td>
</tr>
<tr>
<td></td>
<td>Src SHA1 Hash: 73EB2D7564B060DB79E6FB78694A10E68A43D23F -</td>
</tr>
<tr>
<td></td>
<td>Dst SHA1 Hash: 73EB2D7564B060DB79E6FB78694A10E68A43D23F -</td>
</tr>
</tbody>
</table>

**Results:**

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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>
</tbody>
</table>

**Analysis:** Expected results achieved

---

### 5.2.60 DA-14-RAW

**Test Case DA-14-RAW ILook IXimager Version 2.0, Feb 01 2006**

**Description:** 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:** Joe

**Test Date:** Thu May 4 09:55:27 2006

**Drives:**

- Source: src hash: < F59F02903DCAB895F36E270FB22A722827918125 > 17781249 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 000000000 017751762 0000/001/01 1023/254/63 Boot 0 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:** Comparison of original to clone
Test Case DA-14-RAW ILook IXimager Version 2.0, Feb 01 2006

Sectors compared: 17783249
Sectors match: 17783249
Sectors differ: 0
Bytes differ: 0
Diffs range
Source (17783249) has 18060421 fewer sectors than destination (35843670)
Zero fill: 0
Src Byte fill (2A): 0
Dst Byte fill (E6): 18060421
Other fill: 0
Other no fill: 0
Zero fill range:
Src fill range:
Dst fill range: 17783249-35843669
Other fill range:
Other not filled range:
0 source read errors, 0 destination read errors

IXImager Log file
SCSI device sdb: 17783249 512-byte hdwr sectors (9105 MB)
SCSI device sdc: 35843670 512-byte hdwr sectors (18352 MB)
SCSI device sdd: 781443888 512-byte hdwr sectors (400099 MB)
SCSI device sdc: 35843670 512-byte hdwr sectors (18352 MB)
Initializing...
Opened output device '/dev/sdc'
Beginning Restore operation for 9105023488 bytes
Beginning Restore operation
Beginning Restore operation
Opened input file './ILookImage/ILook.022/DA10RAW0002.asb'
continuing at byte 646709248
Restoring from ./ILook.022/DA10RAW0002.asb
Opened input file './ILookImage/ILook.022/DA10RAW0003.asb'
continuing at byte 12934384
Restoring from ./ILook.022/DA10RAW0003.asb
Opened input file './ILookImage/ILook.022/DA10RAW0004.asb'
continuing at byte 1940127744
Restoring from ./ILook.022/DA10RAW0004.asb
Opened input file './ILookImage/ILook.022/DA10RAW0005.asb'
continuing at byte 2586836992
Restoring from ./ILook.022/DA10RAW0005.asb
Opened input file './ILookImage/ILook.022/DA10RAW0006.asb'
continuing at byte 3233546240
Restoring from ./ILook.022/DA10RAW0006.asb
Opened input file './ILookImage/ILook.022/DA10RAW0007.asb'
continuing at byte 3880255488
Restoring from ./ILook.022/DA10RAW0007.asb
Opened input file './ILookImage/ILook.022/DA10RAW0008.asb'
continuing at byte 4526964736
Restoring from ./ILook.022/DA10RAW0008.asb
Opened input file './ILookImage/ILook.022/DA10RAW0009.asb'
continuing at byte 5173673984
Restoring from ./ILook.022/DA10RAW0009.asb
Opened input file './ILookImage/ILook.022/DA10RAW010.asb'
continuing at byte 5820383232
Restoring from ./ILook.022/DA10RAW010.asb
Opened input file './ILookImage/ILook.022/DA10RAW011.asb'
continuing at byte 6467092480
Restoring from ./ILook.022/DA10RAW011.asb
Opened input file './ILookImage/ILook.022/DA10RAW012.asb'
continuing at byte 7113801728
Restoring from ./ILook.022/DA10RAW012.asb
Opened input file './ILookImage/ILook.022/DA10RAW013.asb'
continuing at byte 7760510976
Restoring from ./ILook.022/DA10RAW013.asb
Opened input file './ILookImage/ILook.022/DA10RAW014.asb'
continuing at byte 8407220224
Restoring from ./ILook.022/DA10RAW014.asb
Opened input file './ILookImage/ILook.022/DA10RAW015.asb'
continuing at byte 9053929472
Restoring from ./ILook.022/DA10RAW015.asb
Restore Complete
Restore was completed successfully.
Test Case DA-14-RAW ILook IXimager Version 2.0, Feb 01 2006

Read : 9.123 GB (9122743904 bytes)
Written : 9.105 GB (9105023488 bytes)
Total Processed: 9.105 GB (9105023488 bytes)
Restore Speed : 15.12 MB/sec
Elapsed Time : 0h 10m 2s
Bad Sectors : 0

clearing computer memory...

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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>
</tbody>
</table>

Analysis: Expected results achieved

5.2.61 DA-14-SATA28

Test Case DA-14-SATA28 ILook IXimager Version 2.0, Feb 01 2006

Description: 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: Fri Mar 31 11:10:05 2006

Drives:
src (07) dst (17) other (4D-FU2)

Source
src hash: < 655B9BDDB36A3F9C5C4CC8BF32B8C5B41AF9F52E>
156301488 total sectors (8002631856 bytes)
Model (WDC WD800JD-32HK) serial # (WD-WMAJ91510044)
N Start LBA Length Start C/H/S End C/H/S boot Partition type
1 P 000000006 156280257 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 156280257 sectors 80015491584 bytes

Log
Highlights: Comparision of original to clone
Sectors compared: 156301488
Sectors match: 156301488
Sectors differ: 0
Bytes differ: 0
Diffs range
Source (156301488) has 78140160 fewer sectors than destination (234441648)
Zero fill: 0
Src Byte fill (07): 0
Dst Byte fill (17): 78140160
Other fill: 0
Other no fill: 0
Zero fill range:
Src fill range:
Dst fill range: 156301488-234441647
Other fill range:
Other not filled range:
0 source read errors, 0 destination read errors
## Analysis:

```
Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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>
</tbody>
</table>

Analysis: Expected results achieved

5.2.62 DA-14-SATA48

Test Case DA-14-SATA48 ILook IXimager Version 2.0, Feb 01 2006

Description: 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: Joe
Test Date: Tue Apr 4 15:36:46 2006
Drives: src hash: < F82982A9C63133988C1D2B4DA7C925CC2A2D77A5 >
Source: src hash: < F82982A9C63133988C1D2B4DA7C925CC2A2D77A5 >
Setup: 312581808 total sectors (16004185696 bytes) 19456/254/63 (max cyl/hd values) 19457/255/63 (number of cyl/hd)
Model (WDC WD1600JD-00G) serial # (WD-WMAES2058252)
Test Case DA-14-SATA48 | ILook IXimager Version 2.0, Feb 01 2006

<table>
<thead>
<tr>
<th>N</th>
<th>Start LBA</th>
<th>Length</th>
<th>Start C/H/S</th>
<th>End C/H/S</th>
<th>boot</th>
<th>Partition type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>P</td>
<td>0000000063</td>
<td>312560577</td>
<td>0000/001/01</td>
<td>1023/254/63</td>
<td>Boot</td>
</tr>
<tr>
<td>2</td>
<td>P</td>
<td>0000000000</td>
<td>0000000000</td>
<td>0000/000/00</td>
<td>0000/000/00</td>
<td>Boot</td>
</tr>
<tr>
<td>3</td>
<td>P</td>
<td>0000000000</td>
<td>0000000000</td>
<td>0000/000/00</td>
<td>0000/000/00</td>
<td>Boot</td>
</tr>
<tr>
<td>4</td>
<td>P</td>
<td>0000000000</td>
<td>0000000000</td>
<td>0000/000/00</td>
<td>0000/000/00</td>
<td>Boot</td>
</tr>
</tbody>
</table>

1 312560577 sectors 160031015424 bytes

Log

Highlights:
- Comparision of original to clone
- Sectors compared: 312581808
- Sectors match: 312581808
- Sectors differ: 0
- Bytes differ: 0
- Diffs range
  - Source (312581808) has 175815360 fewer sectors than destination (488397168)
- Zero fill: 0
- Src Byte fill (16): 0
- Dest Byte fill (0E): 175815360
- Other fill: 0
- Other no fill: 0
- Zero fill range: 0
- Src fill range: 312581808-488397167
- Other fill range: 0
- Other not filled range: 0
- 0 source read errors, 0 destination read errors

IXImager Log file
ata2: dev 0 ATA-6, max UDMA/100, 488397168 sectors: LBA48
SCSI device sdb: 488397168 512-byte hdwr sectors (250059 MB)
SCSI device sdc: 781443888 512-byte hdwr sectors (400099 MB)
SCSI device sdb: 488397168 512-byte hdwr sectors (250059 MB)
Initializing...
Opened output device '/dev/sdb'
Beginning Restore operation for 160041885696 bytes
Beginning Restore operation
Beginning Restore operation
Opened input file '/ILookImager/ILook.010/DA06SATAA48002.asb'
continuing at byte 1265631232
Restoring from /ILook.010/DA06SATAA48002.asb
Opened input file '/ILookImager/ILook.010/DA06SATAA48003.asb'
continuing at byte 22619160576
Restoring from /ILook.010/DA06SATAA48003.asb
Opened input file '/ILookImager/ILook.010/DA06SATAA48004.asb'
continuing at byte 50721521664
Restoring from /ILook.010/DA06SATAA48004.asb
Opened input file '/ILookImager/ILook.010/DA06SATAA48005.asb'
continuing at byte 78887649280
Restoring from /ILook.010/DA06SATAA48005.asb
Opened input file '/ILookImager/ILook.010/DA06SATAA48006.asb'
continuing at byte 107050106880
Restoring from /ILook.010/DA06SATAA48006.asb
Opened input file '/ILookImager/ILook.010/DA06SATAA48007.asb'
continuing at byte 135216234496
Restoring from /ILook.010/DA06SATAA48007.asb
Restore Complete
Restore was completed successfully.

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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 A1.</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>
</tbody>
</table>

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Results of IXimager V2 02/01/06
**Analysis:** Expected results achieved

5.2.63 DA-14-SCSI

**Test Case DA-14-SCSI ILook IXimager Version 2.0, Feb 01 2006**

**Description:** 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:** Joe
**Test Date:** Fri Mar 31 11:05:11 2006
**Drives:** src(2A) dst (24) other (4D-FU2)

**Source Setup:**
- src hash: <F5F9F2901DCAB895F36E270FE22A722E27918125>
- 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:**
- Comparison of original to clone
- Sectors compared: 17783249
- Sectors match: 17783249
- Sectors differ: 0
- Bytes differ: 0
- Diffs range
  - Source (17783249) has 125591492 fewer sectors than destination (143374741)
  - Zero fill: 0
  - Src Byte fill (2A): 0
  - Dst Byte fill (24): 125591492
  - Other fill: 0
  - Other no fill: 0
  - Zero fill range:
  - Src fill range:
  - Dst fill range: 17783249-143374740
  - Other fill range:
  - Other not filled range:
- 0 source read errors, 0 destination read errors

IXImager Log file
- SCSI device sdb: 143374741 512-byte hdwr sectors (73408 MB)
- SCSI device sdc: 781443888 512-byte hdwr sectors (400099 MB)
- SCSI device sdb: 143374741 512-byte hdwr sectors (73408 MB)
- Initializing...
- Opened output device '/dev/sdb'
- Beginning Restore operation for 9105023488 bytes
- Beginning Restore operation
- Beginning Restore operation
- Restore Complete
- Restore was completed successfully.

Read : 606.9 MB (606900616 bytes)
Written : 9.105 GB (9105023488 bytes)
Total Processed: 9.105 GB (9105023488 bytes)
Test Case DA-14-SCSI ILook IXimager Version 2.0, Feb 01 2006

Restore Speed : 53.88 MB/sec
Elapsed Time : 0h 2m 49s
Bad Sectors : 0
Clearing computer memory...

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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>
</tbody>
</table>

Analysis: Expected results achieved

5.2.64 DA-14-SWAP

Test Case DA-14-SWAP ILook IXimager Version 2.0, Feb 01 2006

Description: 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: Max
Test Date: Tue Apr 25 09:20:35 2006
Drives: src(44) dst (2C) other (4D-FU2)

Source
arc hash: < E196D3667B322C0EF83923112AD1800581742B6E >

IDE disk: Model (WDC WD400JB-00FMA0) serial # (WD-WMAJC1011319)

<table>
<thead>
<tr>
<th>N Start LBA Length Start C/H/S End C/H/S boot Partition type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 P 0000000063 020980827 0000/001/01 1023/254/63 0C Fat32X</td>
</tr>
<tr>
<td>2 X 020980890 057175335 1023/000/01 0254/23/63 0F extended</td>
</tr>
<tr>
<td>3 S 0000000063 000032067 1023/001/01 1023/254/63 01 Fat12</td>
</tr>
<tr>
<td>4 X 0000032130 00104555 1023/000/01 1023/254/63 05 extended</td>
</tr>
<tr>
<td>5 S 0000000063 00104452 1023/000/01 1023/254/63 06 Fat16</td>
</tr>
<tr>
<td>6 X 020136645 04192965 1023/000/01 1023/254/63 05 extended</td>
</tr>
<tr>
<td>7 S 0000000063 04192902 1023/000/01 1023/254/63 16 other</td>
</tr>
<tr>
<td>8 X 006329610 08401995 1023/000/01 1023/254/63 05 extended</td>
</tr>
<tr>
<td>9 S 0000000063 08401932 1023/000/01 1023/254/63 0B Fat32</td>
</tr>
<tr>
<td>10 X 014731605 010490445 1023/000/01 1023/254/63 05 extended</td>
</tr>
<tr>
<td>11 S 0000000063 010490382 1023/000/01 1023/254/63 83 Linux</td>
</tr>
<tr>
<td>12 X 0252322050 04209030 1023/000/01 1023/254/63 05 extended</td>
</tr>
<tr>
<td>13 S 0000000063 042098967 1023/000/01 1023/254/63 82 Linux swap</td>
</tr>
<tr>
<td>14 X 029431080 027744255 1023/000/01 1023/254/63 05 extended</td>
</tr>
<tr>
<td>15 S 0000000063 027744192 1023/000/01 1023/254/63 07 NTFS</td>
</tr>
<tr>
<td>16 S 0000000000 00000000 0000/000/00 0000/000/00 00 empty entry</td>
</tr>
<tr>
<td>17 P 0000000000 00000000 0000/000/00 0000/000/00 00 empty entry</td>
</tr>
<tr>
<td>18 P 0000000000 00000000 0000/000/00 0000/000/00 00 empty entry</td>
</tr>
<tr>
<td>19 P 0000000000 00000000 0000/000/00 0000/000/00 00 empty entry</td>
</tr>
<tr>
<td>20 P 020980827 10742183424 1023/254/63 sectors 10742183424 bytes</td>
</tr>
<tr>
<td>3 000032067 sectors 16418304 bytes</td>
</tr>
<tr>
<td>5 002140452 sectors 1077479424 bytes</td>
</tr>
<tr>
<td>7 004192902 sectors 2146765824 bytes</td>
</tr>
<tr>
<td>9 008401932 sectors 4301789184 bytes</td>
</tr>
<tr>
<td>11 010490382 sectors 5371075584 bytes</td>
</tr>
<tr>
<td>13 004209030 sectors 2154991104 bytes</td>
</tr>
<tr>
<td>15 027744192 sectors 14205026304 bytes</td>
</tr>
</tbody>
</table>

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Results of IXimager V2 02/01/06
Test Case DA-14-SWAP ILook IXimager Version 2.0, Feb 01 2006

Log
Highlights: IXImager Log file
SCSI device sdb: 17783249 512-byte hdwr sectors (9105 MB)
SCSI device sdc: 78165360 512-byte hdwr sectors (40021 MB)
SCSI device sdd: 781443888 512-byte hdwr sectors (400099 MB)
SCSI device sdb: 17783249 512-byte hdwr sectors (9105 MB)
Initializing...
Opened output device '/dev/sdb'
Beginning Restore operation for 2154991104 bytes
Beginning Restore operation
Beginning Restore operation
Beginning Restore operation
Restore Complete
Restore was completed successfully.

Read : 49.74 MB (49737188 bytes)
Written : 2.155 GB (2154991104 bytes)
Total Processed: 2.155 GB (2154991104 bytes)
Restore Speed : 13.22 MB/sec
Elapsed Time : 0h 2m 43s
Bad Sectors : 0
Clearing computer memory...

Hashes of src and dst partitions
Src SHA1 Hash: 7BDD19B2343AB62042FBF47FA0D69BB9F1EC6A -
Dst SHA1 Hash: 7BDD19B2343AB62042FBF47FA0D69BB9F1EC6A -

Results:

<table>
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</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>
</tbody>
</table>

Analysis: Expected results achieved

5.2.65 DA-14-THUMB

Test Case DA-14-THUMB ILook IXimager Version 2.0, Feb 01 2006

Description: 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: JohnSteed
Test Date: Wed May 10 11:01:08 2006

Drives: src(D2-THUMB) dst (D4-THUMB) other (4D-FU2)

Source: src hash: < 712C9F59F598745977E4E19F235F83CE8F4EC7BA >
Set up: 253400 total sectors (129740800 bytes)
Model (VS128M3FLASHA ) serial # ()
Removable media, no partition table.

Log
Highlights: Comparison of original to clone
Sectors compared: 253400
Sectors match: 253400
Sectors differ: 0
Bytes differ: 0
Diffs range
Test Case DA-14-USB

Description: 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 interface DST-AI.
- AO-14 An unaligned clone is created.
- AO-17 Excess sectors are unchanged.
- AO-23 Logged information is correct.

Tester Name: brl
Test Host: Freddy
Test Date: Mon Apr 3 15:57:26 2006
Drives: src (63-FU2) dst (85-FU2) other (4D-FU2)
Source: src hash: < F7069EDCBEAC863C88DECED82159F32DA96BB99B >
Test Case DA-14-USB ILook IXimager Version 2.0, Feb 01 2006

Setup:
117304992 total sectors (60060155904 bytes)
Model (SP0612N ) serial # ()
N Start LBA Length Start C/H/S End C/H/S boot Partition type
1 P 000000006 004192902 0000/001/01 0260/254/63 Boot 06 Fat16
2 X 004192965 113097600 0261/000/01 1023/254/63 0F extended
3 S 000000063 113097537 0261/001/01 1023/254/63 0B Fat32
4 S 000000000 000000000 0000/000/00 0000/000/00 00 empty entry
5 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry
6 P 000000000 000000000 0000/000/00 0000/000/00 00 empty entry
1 004192902 sectors 2146765824 bytes
3 113097537 sectors 57905938944 bytes

Log

Highlights: Comparision of original to clone
Sectors compared: 117304992
Sectors match: 117304992
Sectors differ: 0
Bytes differ: 0
Diffs range
Source (117304992) has 43531488 fewer sectors than destination (160836480)
Zero fill: 0
Src Byte fill (63): 0
Dst Byte fill (85): 43531488
Other fill: 0
Other no fill: 0
Zero fill range:
Src fill range:
Dst fill range: 117304992-160836479
Other fill range:
Other not filled range:
0 source read errors, 0 destination read errors

IXImager Log file
SCSI device sda: 160836480 512-byte hdwr sectors (82348 MB)
SCSI device sdc: 781443888 512-byte hdwr sectors (400099 MB)
Initializing...
Opened output device '/dev/sda'
Beginning Restore operation for 60060155904 bytes
Beginning Restore operation
Beginning Restore operation
Opened input file '/ILookImager/ILook.004/DA06USB002.asb'
continuing at byte 28178251776
Restoring from /ILook.004/DA06USB002.asb
Opened input file '/ILookImager/ILook.004/DA06USB003.asb'
continuing at byte 56341833488
Restoring from /ILook.004/DA06USB003.asb
Restore Complete
Restore was completed successfully.

Read : 1.382 GB (1381727236 bytes)
Written : 60.06 GB (60060155904 bytes)
Total Processed: 60.06 GB (60060155904 bytes)
Restore Speed : 14.99 MB/sec
Elapsed Time : 1h 6m 46s
Bad Sectors : 0
Clearing computer memory...

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM-03 Execution environment is XE.</td>
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<tr>
<td>AO-12 A clone is created from an image file.</td>
<td>as expected</td>
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<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>
</tbody>
</table>

Analysis: Expected results achieved
## Test Case DA-14-X2

**ILook IXImager Version 2.0, Feb 01 2006**

**Description:** 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:** Joe

**Test Date:** Mon Apr 24 15:56:52 2006

**Drives:**
- **src(43)**
- **dst (2F)**
- **other (4D-FU2)**

**Source Setup:**
- Model (0BB-75JHC0)
- serial # (WD-WNAMC46588)
- 78125000 total sectors (4000000000 bytes)

<table>
<thead>
<tr>
<th>N</th>
<th>Start LBA</th>
<th>Length</th>
<th>Start C/H/S</th>
<th>End C/H/S</th>
<th>boot</th>
<th>Partition type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>000000063</td>
<td>020980827</td>
<td>0000/001/01</td>
<td>1023/254/63</td>
<td>0C</td>
<td>Fat32X</td>
</tr>
<tr>
<td>2</td>
<td>0020980890</td>
<td>057143205</td>
<td>1023/000/01</td>
<td>1023/254/63</td>
<td>0F</td>
<td>extended</td>
</tr>
<tr>
<td>3</td>
<td>000000063</td>
<td>00032067</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>01</td>
<td>Fat12</td>
</tr>
<tr>
<td>4</td>
<td>0000032130</td>
<td>002104515</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>05</td>
<td>extended</td>
</tr>
<tr>
<td>5</td>
<td>000000063</td>
<td>002104452</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>06</td>
<td>Fat16</td>
</tr>
<tr>
<td>6</td>
<td>002236645</td>
<td>043129665</td>
<td>1023/000/01</td>
<td>1023/254/63</td>
<td>05</td>
<td>extended</td>
</tr>
<tr>
<td>7</td>
<td>000000063</td>
<td>004192902</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>16</td>
<td>other</td>
</tr>
<tr>
<td>8</td>
<td>00006329610</td>
<td>008401995</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>05</td>
<td>extended</td>
</tr>
<tr>
<td>9</td>
<td>000000063</td>
<td>008401932</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>0B</td>
<td>Fat32</td>
</tr>
<tr>
<td>10</td>
<td>014731605</td>
<td>010490382</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>05</td>
<td>extended</td>
</tr>
<tr>
<td>11</td>
<td>000000063</td>
<td>010490382</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>83</td>
<td>Linux</td>
</tr>
<tr>
<td>12</td>
<td>025222050</td>
<td>004208967</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>82</td>
<td>Linux swap</td>
</tr>
<tr>
<td>14</td>
<td>029431080</td>
<td>027712125</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>05</td>
<td>extended</td>
</tr>
<tr>
<td>15</td>
<td>000000063</td>
<td>027712062</td>
<td>1023/001/01</td>
<td>1023/254/63</td>
<td>07</td>
<td>NTFS</td>
</tr>
<tr>
<td>16</td>
<td>000000000</td>
<td>000000000</td>
<td>0000/000/00</td>
<td>0000/000/00</td>
<td>00</td>
<td>empty entry</td>
</tr>
<tr>
<td>17</td>
<td>000000000</td>
<td>000000000</td>
<td>0000/000/00</td>
<td>0000/000/00</td>
<td>00</td>
<td>empty entry</td>
</tr>
<tr>
<td>18</td>
<td>000000000</td>
<td>000000000</td>
<td>0000/000/00</td>
<td>0000/000/00</td>
<td>00</td>
<td>empty entry</td>
</tr>
</tbody>
</table>

- 1 020980827 sectors 10742183424 bytes
- 3 000032067 sectors 16418304 bytes
- 5 002104452 sectors 1077479424 bytes
- 7 004192902 sectors 2146765824 bytes
- 11 010490382 sectors 5371075584 bytes
- 13 004208967 sectors 2154991104 bytes
- 15 027712062 sectors 14388575744 bytes

**Log Highlights:**
- IXImager Log file
- SCSI device sdb: 17783249 512-byte hdwr sectors (9105 MB)
- SCSI device sdc: 78125000 512-byte hdwr sectors (4000000 bytes)
- Initializing...
- Opened output device '/dev/sdb'
- Beginning Restore operation for 5371075584 bytes
- Beginning Restore operation
- Beginning Restore operation
- Restore Complete
- Restore was completed successfully.

- Read : 125.1 MB (125098895 bytes)
- Written : 5.371 GB (5371075584 bytes)
- Total Processed: 5.371 GB (5371075584 bytes)
- Restore Speed : 12.91 MB/sec
- Elapsed Time : 0h 6m 56s
- Bad Sectors : 0
- Clearing computer memory...
### Test Case DA-14-X2

**Hashes of src and dst partitions**

- **Src SHA1 Hash:** 283BCC32DE892C12C37698AF7E38703619E57F57
- **Dst SHA1 Hash:** 283BCC32DE892C12C37698AF7E38703619E57F57

**Results:**

<table>
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<td>as expected</td>
</tr>
</tbody>
</table>

**Analysis:**

Expected results achieved

---

### Test Case DA-14-ZIP

**Description:** 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:** Nick

**Test Date:** Thu May 11 10:52:02 2006

**Drives:**

- **src (E2-ZIP)**
- **dst (E1-ZIP)**
- **other (4D-FU2)**

**Source**

- **hash:** <AFEA6483060C6FAD1026B7094810674E91AEA5D7>

**Setup**

- 196608 total sectors (100663296 bytes)
- Model (ZIP 250) serial # ()
- Removable media, no partition table.

**Log**

**Highlights:** Comparision of original to clone

- Sectors compared: 196608
- Sectors match: 196608
- Sectors differ: 0
- Bytes differ: 0
- Diffs range
- Source (196608) has 292864 fewer sectors than destination (489472)
- Zero fill: 0
- Src Byte fill (E2): 0
- Dst Byte fill (E1): 292864
- Other fill: 0
- Other no fill: 0
- Zero fill range: Src fill range: Dst fill range: 196608-489471
- Other fill range: Other not filled range: 0 source read errors, 0 destination read errors

**IXImager Log file**

- hda: 156250000 sectors (80000 MB) w/1821KiB Cache, CHS=9726/255/63, UDMA(100)
- SCSI device sda: 781443888 512-byte hdwr sectors (400099 MB)
- SCSI device sdb: 196608 512-byte hdwr sectors (101 MB)
- Initializing...
- Opened output device '/dev/hdb'
- Beginning Restore operation for 100663296 bytes

---

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**Test Case DA-14-ZIP ILook IXimager Version 2.0, Feb 01 2006**

Beginning Restore operation
Beginning Restore operation
Restore Complete
Restore was completed successfully.

Read: 2.432 MB (2432402 bytes)
Written: 100.7 MB (100663296 bytes)
Total Processed: 100.7 MB (100663296 bytes)
Restore Speed: 1.213 MB/sec
Elapsed Time: 0h 1m 23s
Bad Sectors: 0
Clearing computer memory...

Results:

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</tbody>
</table>

Analysis: Expected results achieved

**5.2.69 DA-17**

**Test Case DA-17 ILook IXimager Version 2.0, Feb 01 2006**

Description: 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: brl
Test Host: Joe
Test Date: Fri May 26 14:50:36 2006
Drives: src(41) dst (5A) other (4D-FU2)

Source
- src hash: < 15CAA1A307271160D8372668BF8A03FC45A51CC9 >
- 78125000 total sectors (40000000000 bytes)
- 65534/015/63 (max cyl/hd values)
- 65535/016/63 (number of cyl/hd)
- IDE disk: Model (WD WD400BB-7SJHC0) serial # (WD-WMAC4658355)
- N Start LBA Length Start C/H/S End C/H/S boot Partition type
  - 1 P 0000000063 078107967 0000/001/01 1023/254/63 Boot 07 NTFS
  - 2 P 0000000000 0000000000 0000/000/00 0000/000/00 00 empty entry
  - 3 P 0000000000 0000000000 0000/000/00 0000/000/00 00 empty entry
  - 4 P 0000000000 0000000000 0000/000/00 0000/000/00 00 empty entry
- 1 078107967 sectors 39991279104 bytes

Log
- Comparison of original to clone
- Sectors compared: 12692736
- Sectors match: 12692736
- Sectors differ: 0
- Bytes differ: 0
- Diffs range
- Source (78125000) has 65432264 more sectors than destination (12692736)
- 0 source read errors, 0 destination read errors

IXImager Log file
- hda: 12692736 sectors (6498 MB) w/468KiB Cache, CHS=13431/15/63, UDMA33
- SCSI device sdb: 781443888 512-byte hdwr sectors (400099 MB)
- Initializing...
- Opened output device '/dev/hda'

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Test Case DA-17 ILook IXimager Version 2.0, Feb 01 2006

Beginning Restore operation for 40000000000 bytes
Beginning Restore operation
Beginning Restore operation
Your target device has run out of free space!
Restore Aborted
Restore was aborted.

Read : 150.1 MB (150142976 bytes)
Written : 6.499 GB (6498680832 bytes)
Total Processed: 6.501 GB (6500712448 bytes)
Expected Size : 40.00 GB (40000000000 bytes)
Restore Speed : 1.700 MB/sec
Elapsed Time : 1h 3m 43s
Bad Sectors : 0
Clearing computer memory...

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<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-19 Truncated clone is created.</td>
<td>as expected</td>
</tr>
<tr>
<td>AO-20 User notified that clone is truncated.</td>
<td>as expected</td>
</tr>
<tr>
<td>AO-23 Logged information is correct.</td>
<td>as expected</td>
</tr>
</tbody>
</table>

Analysis: Expected results achieved

5.2.70 DA-24

Test Case DA-24 ILook IXimager Version 2.0, Feb 01 2006

Description: 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: Brl
Test Host: JohnSteed
Test Date: Tue May 16 11:02:54 2006

Drives: src(4D-FU2) dst (4D-FU2) other (none)
Source hash: < F59F9F2903DCAAB995F16E270F622A722E27918125 >
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: IXImager Log file
hda: 156301488 sectors (80026 MB) w/8192KiB Cache, CHS=9729/255/63, UDMA(100)
SCSI device sda: 781443888 512-byte hdwr sectors (400099 MB)
Initializing...
Beginning Verify operation for 9105023488 bytes
Beginning Verify operation
Beginning Verify operation
Verify Complete
Verify was completed successfully.

Read : 606.9 MB (606900616 bytes)
Written : 0.000 MB (0 bytes)
Total Processed: 9.105 GB (9105023488 bytes)
Verify Speed : 31.84 MB/sec
Elapsed Time : 0h 4m 46s

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Test Case DA-24 ILook IXimager Version 2.0, Feb 01 2006

Bad Sectors : 0
SHA-1 Value : f5f9f2903cab895f36e270fb22a722e27918125
: for 9105023488 bytes
Clearing computer memory...

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM-03 Execution environment is XE.</td>
<td>as expected</td>
</tr>
<tr>
<td>AO-06 Tool verifies image file unchanged.</td>
<td>as expected</td>
</tr>
<tr>
<td>AO-23 Logged information is correct.</td>
<td>as expected</td>
</tr>
</tbody>
</table>

Analysis: Expected results achieved

5.2.71 DA-25

Test Case DA-25 ILook IXimager Version 2.0, Feb 01 2006

Description: 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: Brl
Test Host: JohnSteed
Test Date: Tue May 16 11:05:04 2006
Drives: src(4D-FU2) dst (4D-FU2) other (none)
Source Setup:
- src hash: < F5F9F2901DCAB895F36E270F22A722E27918125 >
- 17731249 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: IXImager Log file
- hda: 156301488 sectors (80026 MB) w/8192KiB Cache, CHS=9729/255/63, UDMA(100)
- SCSI device sda: 781443888 512-byte hdwr sectors (400099 MB)
- Initializing...
- Beginning Verify operation for 9105023488 bytes
- Beginning Verify operation
- Beginning Verify operation
- Opened input file '/ILookImager/ILook.022/DA10RAW002.asb' continuing at byte 646709248
- Calculating SHA-1 hash of /ILook.022/DA10RAW002.asb
- Opened input file '/ILookImager/ILook.022/DA10RAW003.asb' continuing at byte 1293418496
- Calculating SHA-1 hash of /ILook.022/DA10RAW003.asb
- Opened input file '/ILookImager/ILook.022/DA10RAW004.asb' continuing at byte 1940127744
- Calculating SHA-1 hash of /ILook.022/DA10RAW004.asb
- Opened input file '/ILookImager/ILook.022/DA10RAW005.asb' continuing at byte 2586836992
- Calculating SHA-1 hash of /ILook.022/DA10RAW005.asb
- Opened input file '/ILookImager/ILook.022/DA10RAW006.asb' continuing at byte 3233546240
- Calculating SHA-1 hash of /ILook.022/DA10RAW006.asb
- Opened input file '/ILookImager/ILook.022/DA10RAW007.asb' continuing at byte 3880255488
- Calculating SHA-1 hash of /ILook.022/DA10RAW007.asb
- Opened input file '/ILookImager/ILook.022/DA10RAW008.asb'

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Test Case DA-26 ILook IXimager Version 2.0, Feb 01 2006

continuing at byte 4526964736
Calculating SHA-1 hash of /ILook.022/DA10RAW008.asb
Opened input file '/ILookImager/ILook.022/DA10RAW008.asb'
continuing at byte 5173673984
Calculating SHA-1 hash of /ILook.022/DA10RAW009.asb
Opened input file '/ILookImager/ILook.022/DA10RAW010.asb'
continuing at byte 5820383232
Calculating SHA-1 hash of /ILook.022/DA10RAW010.asb
An error occurred while trying to verify the data at offset 5821235200 from the original source device. The checksum for the 88826 bytes of data currently stored at this position does not match the checksum that was archived as part of segment -4691104391841710080 when the image file was created. This generally indicates that your image file has become corrupted.

Would you like to continue this operation anyways?
User selected: Continue
Opened input file '/ILookImager/ILook.022/DA10RAW011.asb'
continuing at byte 6467092480
Calculating SHA-1 hash of /ILook.022/DA10RAW011.asb
Opened input file '/ILookImager/ILook.022/DA10RAW012.asb'
continuing at byte 7113801728
Calculating SHA-1 hash of /ILook.022/DA10RAW012.asb
Opened input file '/ILookImager/ILook.022/DA10RAW013.asb'
continuing at byte 7760510976
Calculating SHA-1 hash of /ILook.022/DA10RAW013.asb
Opened input file '/ILookImager/ILook.022/DA10RAW014.asb'
continuing at byte 8407220224
Calculating SHA-1 hash of /ILook.022/DA10RAW014.asb
Opened input file '/ILookImager/ILook.022/DA10RAW015.asb'
continuing at byte 9053929472
Calculating SHA-1 hash of /ILook.022/DA10RAW015.asb
Verify Complete
Verify was completed successfully.
Read : 9.123 GB (9122743904 bytes)
Written : 0.000 MB (0 bytes)
Total Processed: 9.105 GB (9105023488 bytes)
Elapsed Time : 0h 15m 45s
Bad Sectors : 0
SHA-1 Value : 70a130944f45a41c23b0ffaae01958ae348491e3
: for 9105023488 bytes
Clearing computer memory...

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM-03 Execution environment is XB.</td>
<td>as expected</td>
</tr>
<tr>
<td>AO-07 User notified if image file has changed.</td>
<td>as expected</td>
</tr>
<tr>
<td>AO-08 User notified of changed locations.</td>
<td>as expected</td>
</tr>
<tr>
<td>AO-23 Logged information is correct.</td>
<td>as expected</td>
</tr>
</tbody>
</table>

Analysis: Expected results achieved

5.2.72 DA-26-d2dd

Test Case DA-26-d2dd ILook IXimager Version 2.0, Feb 01 2006

Description: DA-26 Convert an image to an alternate image file format.

Assertions:
AM-03 The tool executes in execution environment XB.
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-23 If the tool logs any log significant information, the information is accurately recorded in the log file.

Tester Name: Brl
Test Host: JohnSteed
Test Date: Tue May 16 11:07:57 2006
Drives: src(4D-FU2) dst (4D-FU2) other (none)
Test Case DA-26-d2dd ILook IXimager Version 2.0, Feb 01 2006

Source

hash: < F5F9F2903DCAB895F36E270FBE22A722E27918125 >

17783249 total sectors (9105023488 bytes)

Model (QM39100TD-SCA ) aerial # (PCB=20-116711-06 HDAQM39100TD-SCA )

N Start LBA Length Start C/H/S End C/H/S boot Partition type
1 P 000000006 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: IXImager Log file

hda: 156301488 sectors (80026 MB) w/8192KiB Cache, CHS=9729/255/63, UDMA(100)

SCSI device sda: 781443888 512-byte hdwr sectors (400099 MB)

Initializing...

Opened output file '/ILookImager/ILook.032/DA06SCSI001.asb'
Beginning Copy operation for 9105023488 bytes
Beginning Copy operation
Beginning Copy operation
Opening output file '/ILookImager/ILook.032/DA06SCSI002.asb'
continuing at byte 649986048
Copy is being stored to /ILook.032/DA06SCSI002.asb
Opening output file '/ILookImager/ILook.032/DA06SCSI003.asb'
continuing at byte 1297940480
Copy is being stored to /ILook.032/DA06SCSI003.asb
Opening output file '/ILookImager/ILook.032/DA06SCSI004.asb'
continuing at byte 1945894912
Copy is being stored to /ILook.032/DA06SCSI004.asb
Opening output file '/ILookImager/ILook.032/DA06SCSI005.asb'
continuing at byte 2593849344
Copy is being stored to /ILook.032/DA06SCSI005.asb
Opening output file '/ILookImager/ILook.032/DA06SCSI006.asb'
continuing at byte 3241803776
Copy is being stored to /ILook.032/DA06SCSI006.asb
Opening output file '/ILookImager/ILook.032/DA06SCSI007.asb'
continuing at byte 3889758208
Copy is being stored to /ILook.032/DA06SCSI007.asb
Opening output file '/ILookImager/ILook.032/DA06SCSI008.asb'
continuing at byte 4537712640
Copy is being stored to /ILook.032/DA06SCSI008.asb
Opening output file '/ILookImager/ILook.032/DA06SCSI009.asb'
continuing at byte 5185667072
Copy is being stored to /ILook.032/DA06SCSI009.asb
Opening output file '/ILookImager/ILook.032/DA06SCSI010.asb'
continuing at byte 5833621504
Copy is being stored to /ILook.032/DA06SCSI010.asb
Opening output file '/ILookImager/ILook.032/DA06SCSI011.asb'
continuing at byte 6481575936
Copy is being stored to /ILook.032/DA06SCSI011.asb
Opening output file '/ILookImager/ILook.032/DA06SCSI012.asb'
continuing at byte 7129530368
Copy is being stored to /ILook.032/DA06SCSI012.asb
Opening output file '/ILookImager/ILook.032/DA06SCSI013.asb'
continuing at byte 7777484800
Copy is being stored to /ILook.032/DA06SCSI013.asb
Opening output file '/ILookImager/ILook.032/DA06SCSI014.asb'
continuing at byte 8425439232
Copy is being stored to /ILook.032/DA06SCSI014.asb
Opening output file '/ILookImager/ILook.032/DA06SCSI015.asb'
continuing at byte 9073393664
Copy is being stored to /ILook.032/DA06SCSI015.asb
Copy Complete
Copy was completed successfully.

Read: 606.9 MB (606900616 bytes)
Written: 9.105 GB (9105023488 bytes)
Total Processed: 9.105 GB (9105023488 bytes)
Copy Speed: 21.63 MB/sec
Elapsed Time: 0h 7m 1s
Bad Sectors: 0
SHA-1 Value: f5f9f2903dcab895f36e270fbb22a722e27918125
for 9105023488 bytes
Test Case DA-26-d2dd ILook IXimager Version 2.0, Feb 01 2006

Clearing computer memory...
Initializing...
Beginning Verify operation for 9105023488 bytes
Beginning Verify operation
Beginning Verify operation
Verify Complete
Verify was completed successfully.

Read : 606.9 MB (606900616 bytes)
Written : 0.000 MB (0 bytes)
Total Processed: 9.105 GB (9105023488 bytes)
Verify Speed : 31.84 MB/sec
Elapsed Time : 0h 4m 46s
Bad Sectors : 0
SHA-1 Value : f5f9f2903dcab895f36e270fb22a722e27918125
: for 9105023488 bytes
Clearing computer memory...
Initializing...
Beginning Verify operation for 9105023488 bytes
Beginning Verify operation
Beginning Verify operation
Verify Complete
Verify was completed successfully.

Read : 606.9 MB (606938395 bytes)
Written : 0.000 MB (0 bytes)
Total Processed: 9.105 GB (9105023488 bytes)
Verify Speed : 31.61 MB/sec
Elapsed Time : 0h 4m 48s
Bad Sectors : 0
SHA-1 Value : f5f9f2903dcab895f36e270fb22a722e27918125
: for 9105023488 bytes
Clearing computer memory...

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM-03 Execution environment is XE.</td>
<td>as expected</td>
</tr>
<tr>
<td>AO-09 Tool converts image file format.</td>
<td>as expected</td>
</tr>
<tr>
<td>AO-23 Logged information is correct.</td>
<td>as expected</td>
</tr>
</tbody>
</table>

Analysis: Expected results achieved

5.2.73 DA-26-D2E

Test Case DA-26-D2E ILook IXimager Version 2.0, Feb 01 2006

Description: DA-26 Convert an image to an alternate image file format.

Assertions: AM-03 The tool executes in execution environment XE.
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-23 If the tool logs any log significant information, the information is accurately recorded in the log file.

Tester Name: Brl
Test Host: JohnSteed
Test Date: Tue May 16 11:06:27 2006
Drives: src(4D-FU2) dst(4D-FU2) other (none)
Source hash: < F5F9F2903DCAB895F36E270FB22A722E27918125 >
Model (QM39100TD-SCA ) serial # (PCB=20-116711-06 HDQM39100TD-SCA )
N Start LBA Length Start C/H/S End C/H/S boot Partition type
1 P 0000000000 0000000000 0000/001/01 0000/000/00 00 empty entry
2 P 0000000000 0000000000 0000/000/00 0000/000/00 00 empty entry
3 P 0000000000 0000000000 0000/000/00 0000/000/00 00 empty entry
4 P 0000000000 0000000000 0000/000/00 0000/000/00 00 empty entry
1 017751762 sectors 9088902144 bytes

Log
Highlights: IXImager Log file
Test Case DA-26-D2E ILook IXimager Version 2.0, Feb 01 2006

hd: 156301488 sectors (80026 MB) w/8192KiB Cache, CHS=9729/255/63, UDMA(100)
SCSI device sda: 781443888 512-byte hdwr sectors (400099 MB)
User selected ILook Encrypted Image Format
Initializing...
Opened output file './ILookImager/ILook.027/DA06SCSI001.asb'
Beginning Copy operation for 9105023488 bytes
Beginning Copy operation
Beginning Copy operation
Copy Complete
Copy was completed successfully.

Read : 606.9 MB (606900616 bytes)
Written : 609.1 MB (609122162 bytes)
Total Processed: 9.105 GB (9105023488 bytes)
Copy Speed : 20.51 MB/sec
Elapsed Time : 0h 7m 24s
Compression : 93.31%
Bad Sectors : 0
SHA-1 Value : f5f9f2903dcab895f36e270fb22a722e27918125 : for 9105023488 bytes

Clearing computer memory...
Initializing...
Beginning Verify operation for 9105023488 bytes
Beginning Verify operation
Beginning Verify operation
Verify Complete
Verify was completed successfully.

Read : 606.9 MB (606900616 bytes)
Written : 0.000 MB (0 bytes)
Total Processed: 9.105 GB (9105023488 bytes)
Verify Speed : 31.72 MB/sec
Elapsed Time : 0h 4m 47s
Bad Sectors : 0
SHA-1 Value : f5f9f2903dcab895f36e270fb22a722e27918125 : for 9105023488 bytes

Clearing computer memory...
Initializing...
Beginning Verify operation for 9105023488 bytes
Beginning Verify operation
Beginning Verify operation
Verify Complete
Verify was completed successfully.

Read : 609.1 MB (609122162 bytes)
Written : 0.000 MB (0 bytes)
Total Processed: 9.105 GB (9105023488 bytes)
Verify Speed : 30.25 MB/sec
Elapsed Time : 0h 5m 1s
Bad Sectors : 0
SHA-1 Value : f5f9f2903dcab895f36e270fb22a722e27918125 : for 9105023488 bytes

Clearing computer memory...

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM-03 Execution environment is XE.</td>
<td>as expected</td>
</tr>
<tr>
<td>AO-09 Tool converts image file format.</td>
<td>as expected</td>
</tr>
<tr>
<td>AO-23 Logged information is correct.</td>
<td>as expected</td>
</tr>
</tbody>
</table>

Analysis: Expected results achieved

5.2.74 DA-26-D2R

Test Case DA-26-D2R ILook IXimager Version 2.0, Feb 01 2006

Description: DA-26 Convert an image to an alternate image file format.

Assertions: AM-03 The tool executes in execution environment XE.
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
<table>
<thead>
<tr>
<th>Test Case</th>
<th>Description</th>
</tr>
</thead>
</table>
| DA-26-D2R | Image file is the same as the acquired data in the source image file.
| AO-23     | If the tool logs any log significant information, the information is accurately recorded in the log file. |

**Tester Name:** Brl  
**Test Host:** JohnSteed  
**Test Date:** Tue May 16 11:06:44 2006  
**Drives:** src (4D-FU2) dst (4D-FU2) other (none)

**Source Setup:**  
src hash: `<F5F9F2903DCAB895F36E270FB22A722E7918125>`  
17781249 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 0000000006 017751762 0000/001/01 1023/254/63 Boot 07 NTFS  
2 P 0000000000 0000000000 0000/000/00 0000/000/00 00 empty entry  
3 P 0000000000 0000000000 0000/000/00 0000/000/00 00 empty entry  
4 P 0000000000 0000000000 0000/000/00 0000/000/00 00 empty entry  
1 017751762 sectors 9088902144 bytes

**Log Highlights:**  
IXImager Log file  
hda: 156301488 sectors (80026 MB) w/8192KiB Cache, CHS=9729/255/63, UDMA(100)  
SCSI device sda: 781443888 512-byte hdwr sectors (400099 MB)  
User selected ILook Raw Image Format  
Initializing...  
Opened output file `/ILookImager/ILook.028/DA06SCSI001.asb'  
Beginning Copy operation for 9105023488 bytes  
Beginning Copy operation

Opening output file `/ILookImager/ILook.028/DA06SCSI002.asb'  
continuing at byte 648675328  
Copy is being stored to `/ILook.028/DA06SCSI002.asb'  
Opened output file `/ILookImager/ILook.028/DA06SCSI003.asb'  
continuing at byte 1295384576  
Copy is being stored to `/ILook.028/DA06SCSI003.asb'  
Opened output file `/ILookImager/ILook.028/DA06SCSI004.asb'  
continuing at byte 1942093824  
Copy is being stored to `/ILook.028/DA06SCSI004.asb'  
Opened output file `/ILookImager/ILook.028/DA06SCSI005.asb'  
continuing at byte 2588803072  
Copy is being stored to `/ILook.028/DA06SCSI005.asb'  
Opened output file `/ILookImager/ILook.028/DA06SCSI006.asb'  
continuing at byte 3235512320  
Copy is being stored to `/ILook.028/DA06SCSI006.asb'  
Opened output file `/ILookImager/ILook.028/DA06SCSI007.asb'  
continuing at byte 3882221568  
Copy is being stored to `/ILook.028/DA06SCSI007.asb'  
Opened output file `/ILookImager/ILook.028/DA06SCSI008.asb'  
continuing at byte 4528938016  
Copy is being stored to `/ILook.028/DA06SCSI008.asb'  
Opened output file `/ILookImager/ILook.028/DA06SCSI009.asb'  
continuing at byte 517564064  
Copy is being stored to `/ILook.028/DA06SCSI009.asb'  
Opened output file `/ILookImager/ILook.028/DA06SCSI010.asb'  
continuing at byte 5822349312  
Copy is being stored to `/ILook.028/DA06SCSI010.asb'  
Opened output file `/ILookImager/ILook.028/DA06SCSI011.asb'  
continuing at byte 6469058560  
Copy is being stored to `/ILook.028/DA06SCSI011.asb'  
Opened output file `/ILookImager/ILook.028/DA06SCSI012.asb'  
continuing at byte 7115767808  
Copy is being stored to `/ILook.028/DA06SCSI012.asb'  
Opened output file `/ILookImager/ILook.028/DA06SCSI013.asb'  
continuing at byte 7762477056  
Copy is being stored to `/ILook.028/DA06SCSI013.asb'  
Opened output file `/ILookImager/ILook.028/DA06SCSI014.asb'  
continuing at byte 8409186304  
Copy is being stored to `/ILook.028/DA06SCSI014.asb'  
Opened output file `/ILookImager/ILook.028/DA06SCSI015.asb'  
continuing at byte 9055895552  
Copy is being stored to `/ILook.028/DA06SCSI015.asb'  
Copy Complete  
Copy was completed successfully.
<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read</td>
<td>606.9 MB (606900616 bytes)</td>
</tr>
<tr>
<td>Written</td>
<td>9.123 GB (9122743904 bytes)</td>
</tr>
<tr>
<td>Total Processed</td>
<td>9.105 GB (9105023488 bytes)</td>
</tr>
<tr>
<td>Copy Speed</td>
<td>10.29 MB/sec</td>
</tr>
<tr>
<td>Elapsed Time</td>
<td>0h 14m 45s</td>
</tr>
<tr>
<td>Bad Sectors</td>
<td>0</td>
</tr>
<tr>
<td>SHA-1 Value</td>
<td>f5f9f2903dcab895f36e270f2b22a722e27918125</td>
</tr>
<tr>
<td></td>
<td>: for 9105023488 bytes</td>
</tr>
</tbody>
</table>

Clearing computer memory...
Initializing...
Beginning Verify operation for 9105023488 bytes
Beginning Verify operation
Verify Complete
Verify was completed successfully.

Additional Details:
- Read: 606.9 MB (606900616 bytes)
- Written: 0.000 MB (0 bytes)
- Total Processed: 9.105 GB (9105023488 bytes)
- Verify Speed: 31.72 MB/sec
- Elapsed Time: 0h 4m 47s
- Bad Sectors: 0
- SHA-1 Value: f5f9f2903dcab895f36e270f2b22a722e27918125 for 9105023488 bytes
### Test Case DA-26-D2R ILook IXimager Version 2.0, Feb 01 2006

Verify was completed successfully.

<table>
<thead>
<tr>
<th>Read</th>
<th>9.123 GB (912743904 bytes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written</td>
<td>0.000 MB (0 bytes)</td>
</tr>
<tr>
<td>Total Processed</td>
<td>9.105 GB (9105023488 bytes)</td>
</tr>
<tr>
<td>Verify Speed</td>
<td>12.00 MB/sec</td>
</tr>
<tr>
<td>Elapsed Time</td>
<td>0h 12m 19s</td>
</tr>
<tr>
<td>Bad Sectors</td>
<td>0</td>
</tr>
<tr>
<td>SHA-1 Value</td>
<td>f5f9f2903dca895f36e270fb22a722e27918125 for 9105023488 bytes</td>
</tr>
</tbody>
</table>

Clearing computer memory...

### Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM-03 Execution environment is XE.</td>
<td>as expected</td>
</tr>
<tr>
<td>AO-09 Tool converts image file format.</td>
<td>as expected</td>
</tr>
<tr>
<td>AO-23 Logged information is correct.</td>
<td>as expected</td>
</tr>
</tbody>
</table>

### Analysis:

Expected results achieved

---

### 5.2.75 DA-26-e2d

**Test Case DA-26-e2d ILook IXimager Version 2.0, Feb 01 2006**

**Description:** DA-26 Convert an image to an alternate image file format.

**Assertions:**

- AM-03 The tool executes in execution environment XE.
- 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-23 If the tool logs any log significant information, the information is accurately recorded in the log file.

**Tester Name:** Brl

**Test Host:** JohnSteed

**Test Date:** Tue May 16 11:07:04 2006

**Drives:**

- src (4D-FU2)
- dst (4D-FU2)
- other (none)

**Source Setup:**

- src hash: `<F5F9F2903DCA895F36E270FB22A722E27918125`
- 17783249 total sectors (9105023488 bytes)

**Model:**

- QM39100TD-SCA

**N Start LBA Length Start C/H/S End C/H/S boot Partition type**

1. **P 00000063**
   - 017751762 sectors
   - 9088902144 bytes
   - Boot 07 NTFS

2. **P 00000000**
   - 000000000 sectors
   - 0000/000/00 boot entry

3. **P 00000000**
   - 000000000 sectors
   - 0000/000/00 boot entry

4. **P 00000000**
   - 000000000 sectors
   - 0000/000/00 boot entry

5. **P 00000000**
   - 000000000 sectors
   - 0000/000/00 boot entry

**Log Highlights:**

- IXImager Log file
- hda: 156301488 sectors (80026 MB) w/8192KiB Cache, CHS=9729/255/63, UDMA(100)
- SCSI device sda: 781443888 512-byte hdwr sectors (400099 MB)
- User selected ILook Default Image Format
- Initializing...
- Opened output file '/ILookImager/ILook.033/DA10ENCRYPTED001.asb'
- Beginning Copy operation for 9105023488 bytes
- Copy Complete

**Copy was completed successfully.**

<table>
<thead>
<tr>
<th>Read</th>
<th>609.1 MB (609137424 bytes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written</td>
<td>606.9 MB (606897233 bytes)</td>
</tr>
<tr>
<td>Total Processed</td>
<td>9.105 GB (9105023488 bytes)</td>
</tr>
<tr>
<td>Copy Speed</td>
<td>20.41 MB/sec</td>
</tr>
<tr>
<td>Elapsed Time</td>
<td>0h 7m 26s</td>
</tr>
<tr>
<td>Compression</td>
<td>93.33%</td>
</tr>
<tr>
<td>Bad Sectors</td>
<td>0</td>
</tr>
<tr>
<td>SHA-1 Value</td>
<td>f5f9f2903dca895f36e270fb22a722e27918125 for 9105023488 bytes</td>
</tr>
</tbody>
</table>

Clearing computer memory...
Test Case DA-26-i2d
ILook IXimager Version 2.0, Feb 01 2006

Initializing...
Beginning Verify operation for 9105023488 bytes
Beginning Verify operation
Beginning Verify operation
Verify Complete
Verify was completed successfully.

Read : 609.1 MB (609137424 bytes)
Written : 0.000 MB (0 bytes)
Total Processed: 9.105 GB (9105023488 bytes)
Verify Speed : 29.85 MB/sec
Elapsed Time : 0h 5m 5s
Bad Sectors : 0
SHA-1 Value : f5f9f2903dcab895f36e270fb22a722e27918125
for 9105023488 bytes

Clearing computer memory...

Initializing...
Beginning Verify operation for 9105023488 bytes
Beginning Verify operation
Beginning Verify operation
Verify Complete
Verify was completed successfully.

Read : 606.9 MB (606897233 bytes)
Written : 0.000 MB (0 bytes)
Total Processed: 9.105 GB (9105023488 bytes)
Verify Speed : 31.84 MB/sec
Elapsed Time : 0h 4m 46s
Bad Sectors : 0
SHA-1 Value : f5f9f2903dcab895f36e270fb22a722e27918125
for 9105023488 bytes

Clearing computer memory...

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM-03 Execution environment is XB.</td>
<td>as expected</td>
</tr>
<tr>
<td>AO-09 Tool converts image file format.</td>
<td>as expected</td>
</tr>
<tr>
<td>AO-23 Logged information is correct.</td>
<td>as expected</td>
</tr>
</tbody>
</table>

Analysis: Expected results achieved

5.2.76 DA-26-r2d

Test Case DA-26-r2d ILook IXimager Version 2.0, Feb 01 2006

Description: DA-26 Convert an image to an alternate image file format.

Assertions:
- AM-03 The tool executes in execution environment XB.
- 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-23 If the tool logs any log significant information, the information is accurately recorded in the log file.

Tester Name: Brl
Test Host: JohnSteed
Test Date: Tue May 16 11:07:39 2006

Drives:
- src (4D-FU2) dst (4D-FU2) other (none)

Source:
- Setup: src hash: &lt; F5F9F2903DCAB895F36E270FB22A722E27918125 &gt;
- 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 000000000 000000000 00 empty entry
- 3 P 000000000 000000000 000000000 000000000 00 empty entry
- 4 P 000000000 000000000 000000000 000000000 00 empty entry
- 1 017751762 sectors 9088902144 bytes

Log Highlights: IXimager Log file
- hda: 156301488 sectors (80026 MB) w/8192KiB Cache, CHS=9729/255/63,
Test Case DA-26-r2d ILook IXimager Version 2.0, Feb 01 2006

UEMA(100)
SCSI device sda: 781443888 512-byte hdwr sectors (400099 MB)
User selected ILook Default Image Format
Initializing...
Opened output file '/ILookImager/ILook.034/DA10RAW001.asb'
Beginning Copy operation for 9105023488 bytes
Beginning Copy operation
Opened input file '/ILookImager/ILook.022/DA10RAW002.asb'
continuing at byte 646709248
Making a copy of '/ILook.022/DA10RAW002.asb'
Opened input file '/ILookImager/ILook.022/DA10RAW003.asb'
continuing at byte 1293418496
Making a copy of '/ILook.022/DA10RAW003.asb'
Opened input file '/ILookImager/ILook.022/DA10RAW004.asb'
continuing at byte 1940127744
Making a copy of '/ILook.022/DA10RAW004.asb'
Opened input file '/ILookImager/ILook.022/DA10RAW005.asb'
continuing at byte 2586836992
Making a copy of '/ILook.022/DA10RAW005.asb'
Opened input file '/ILookImager/ILook.022/DA10RAW006.asb'
continuing at byte 3233546240
Making a copy of '/ILook.022/DA10RAW006.asb'
Opened input file '/ILookImager/ILook.022/DA10RAW007.asb'
continuing at byte 3880255488
Making a copy of '/ILook.022/DA10RAW007.asb'
Opened input file '/ILookImager/ILook.022/DA10RAW008.asb'
continuing at byte 4526964736
Making a copy of '/ILook.022/DA10RAW008.asb'
Opened input file '/ILookImager/ILook.022/DA10RAW009.asb'
continuing at byte 5173673984
Making a copy of '/ILook.022/DA10RAW009.asb'
Opened input file '/ILookImager/ILook.022/DA10RAW010.asb'
continuing at byte 5820383232
Making a copy of '/ILook.022/DA10RAW010.asb'
Opened input file '/ILookImager/ILook.022/DA10RAW011.asb'
continuing at byte 6467092480
Making a copy of '/ILook.022/DA10RAW011.asb'
Opened input file '/ILookImager/ILook.022/DA10RAW012.asb'
continuing at byte 7113801728
Making a copy of '/ILook.022/DA10RAW012.asb'
Opened input file '/ILookImager/ILook.022/DA10RAW013.asb'
continuing at byte 7760510976
Making a copy of '/ILook.022/DA10RAW013.asb'
Opened input file '/ILookImager/ILook.022/DA10RAW014.asb'
continuing at byte 8407220224
Making a copy of '/ILook.022/DA10RAW014.asb'
Opened input file '/ILookImager/ILook.022/DA10RAW015.asb'
continuing at byte 9053729472
Making a copy of '/ILook.022/DA10RAW015.asb'
Copy Complete
Copy was completed successfully.

Read : 9.123 GB (9122743904 bytes)
Written : 606.9 MB (606936490 bytes)
Total Processed: 9.105 GB (9105023488 bytes)
Copy Speed : 9.188 MB/sec
Elapsed Time : 0h 16m 31s
Compression : 93.33%
Bad Sectors : 0
SHA-1 Value : f5f9f2903dcab895f36e270fb22a722e27918125
 : for 9105023488 bytes

Clearing computer memory...
Initializing...
Beginning Verify operation for 9105023488 bytes
Beginning Verify operation
Beginning Verify operation
Opened input file '/ILookImager/ILook.022/DA10RAW002.asb'
continuing at byte 646709248
Calculating SHA-1 hash of '/ILook.022/DA10RAW002.asb'
Opened input file '/ILookImager/ILook.022/DA10RAW003.asb'
continuing at byte 1293418496
Calculating SHA-1 hash of '/ILook.022/DA10RAW003.asb'

April 2007       115 of 116     Results of IXimager V2 02/01/06
Test Case DA-26-r2d ILook IXimager Version 2.0, Feb 01 2006

Opened input file '/ILookImager/ILook.022/DA10RAW004.asb'
continuing at byte 1940127744
Calculating SHA-1 hash of /ILook.022/DA10RAW004.asb
Opened input file '/ILookImager/ILook.022/DA10RAW005.asb'
continuing at byte 2586836992
Calculating SHA-1 hash of /ILook.022/DA10RAW005.asb
Opened input file '/ILookImager/ILook.022/DA10RAW006.asb'
continuing at byte 3233546240
Calculating SHA-1 hash of /ILook.022/DA10RAW006.asb
Opened input file '/ILookImager/ILook.022/DA10RAW007.asb'
continuing at byte 3880255488
Calculating SHA-1 hash of /ILook.022/DA10RAW007.asb
Opened input file '/ILookImager/ILook.022/DA10RAW008.asb'
continuing at byte 4526964736
Calculating SHA-1 hash of /ILook.022/DA10RAW008.asb
Opened input file '/ILookImager/ILook.022/DA10RAW009.asb'
continuing at byte 5173673984
Calculating SHA-1 hash of /ILook.022/DA10RAW009.asb
Opened input file '/ILookImager/ILook.022/DA10RAW010.asb'
continuing at byte 5820383232
Calculating SHA-1 hash of /ILook.022/DA10RAW010.asb
Opened input file '/ILookImager/ILook.022/DA10RAW011.asb'
continuing at byte 6467092480
Calculating SHA-1 hash of /ILook.022/DA10RAW011.asb
Opened input file '/ILookImager/ILook.022/DA10RAW012.asb'
continuing at byte 7113801728
Calculating SHA-1 hash of /ILook.022/DA10RAW012.asb
Opened input file '/ILookImager/ILook.022/DA10RAW013.asb'
continuing at byte 7760510976
Calculating SHA-1 hash of /ILook.022/DA10RAW013.asb
Opened input file '/ILookImager/ILook.022/DA10RAW014.asb'
continuing at byte 8407220224
Calculating SHA-1 hash of /ILook.022/DA10RAW014.asb
Opened input file '/ILookImager/ILook.022/DA10RAW015.asb'
continuing at byte 9053929472
Calculating SHA-1 hash of /ILook.022/DA10RAW015.asb
Verify Complete
Verify was completed successfully.

Read :  9.123 GB (9122743904 bytes)
Written :  0.000 MB ( 0 bytes)
Total Processed:  9.105 GB (9105023488 bytes)
Verify Speed :  12.04 MB/sec
Elapsed Time :  0h 12m 36s
Bad Sectors :  0
SHA-1 Value : f5f9f2903dcab895f36e270fb22a722e27918125
for 9105023488 bytes
Clearing computer memory...
Initializing...
Beginning Verify operation for 9105023488 bytes
Beginning Verify operation
Beginning Verify operation
Verify Complete
Verify was completed successfully.

Read :  606.9 MB (606936490 bytes)
Written :  0.000 MB ( 0 bytes)
Total Processed:  9.105 GB (9105023488 bytes)
Verify Speed :  31.72 MB/sec
Elapsed Time :  0h 4m 47s
Bad Sectors :  0
SHA-1 Value : f5f9f2903dcab895f36e270fb22a722e27918125
for 9105023488 bytes
Clearing computer memory...

Results:

<table>
<thead>
<tr>
<th>Assertion &amp; Expected Result</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM-03 Execution environment is XE.</td>
<td>as expected</td>
</tr>
<tr>
<td>AO-09 Tool converts image file format.</td>
<td>as expected</td>
</tr>
<tr>
<td>AO-23 Logged information is correct.</td>
<td>as expected</td>
</tr>
</tbody>
</table>

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).

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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.

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

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