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Test Results for Forensic Media Preparation Tool: Drive eRazer Pro SE Bundle 12/03/2009

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Director, National Institute of Justice

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September 2010

Test Results for Forensic Media Preparation Tool:

Drive eRazer Pro SE Bundle 12/03/2009

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

Contents

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 and Information Technology Laboratory. CFTT is supported by other organizations, including the Federal Bureau of Investigation, the U.S. Department of Defense Cyber Crime Center, the U.S. Internal Revenue Service Criminal Investigation Division Electronic Crimes Program, the U.S. Department of Homeland Security's Bureau of Immigration and Customs Enforcement, the U.S. Customs and Border Protection and the U.S. Secret Service. The objective of the CFTT program is to provide measurable assurance to practitioners, researchers and other users that the tools used in computer forensics investigations provide accurate results. Accomplishing this requires the development of specifications and test methods for computer forensics tools and subsequent testing of specific tools against those specifications.

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

This document reports the results from testing Drive eRazer Pro SE Bundle, against the *Forensic Media Preparation Tool Test Assertions and Test Plan Version 1.0*, available at the CFTT Web site (http://www.cftt.nist.gov/fmp-atp-pc-01.pdf).

Test results for other devices and software packages using the CFTT tool methodology can be found on NIJ's computer forensics tool testing Web page, http://www.ojp.usdoj.gov/nij/topics/technology/electronic-crime/cftt.htm.

How to Read This Report

This report is divided into four key sections. Section 1 is a summary of the results from the test runs. This section is sufficient for most readers to assess the suitability of the tool for the intended use. The remaining sections of the report describe how the tests were conducted and provide documentation of test case run details that support the report summary. Section 2 gives justification for the selection of test cases from the set of possible cases defined in the test plan for forensic media preparation tools. The test cases are selected, in general, based on features offered by the tool. Section 3 lists hardware and software used to run the test cases with links to additional information about the items used. Section 4 contains a description of each test case. The description of each test run lists all test assertions used in the test case, the expected result and the actual result.

Test Results for Forensic Media Preparation Tool

Tool Tested:	Drive eRazer Pro SE Bundle
Version:	31520–0003–0001, 12/03/09
Serial No.	21–036837–C
Run Environments:	Custom

Supplier:	CRU–DataPort/WiebeTech 8201 E. 34th St. North #909 Wichita, KS 67226 U.S.A.
Tel:	866–744–8722
Fax:	316–744–1398
WWW:	http://www.wiebetech.com/

1. Results Summary

The Drive eRazer Pro SE Bundle disk wiping tool supports the use of both the ATA WRITE command and the ATA SECURITY ERASE command for erasing hard drives. The use of both commands was tested.

In all the test cases run against Drive eRazer Pro SE Bundle, all visible sectors were successfully overwritten. For the test cases that used drives containing an HPA or DCO, the tool removed HPAs and DCOs and overwrote the previously hidden sectors with one exception. For test case, FMP–03–DCO–HPA, it was observed that the device removed the HPA while overwriting sectors that were previously hidden, but left the DCO intact on the target drive leaving the sectors hidden by the DCO unchanged. This behavior was limited to Fujitsu drives.

The following table provides a quick overview of the test case results:

Test Case	Drive Last Sector	Last Sector Overwritten	Unchanged Sectors	
			First	Last
FMP–01–ATA28	156301487	156301487		
FMP–01–ATA48	488397167	488397167		
FMP–01–SATA28	234441647	234441647		
FMP–01–SATA48	390721967	390721967		
FMP–02–ATA28	156301487	156301487		
FMP–02–ATA48	490234751	490234751		
FMP–02–SATA28	234441647	234441647		
FMP–02–SATA48	312581807	312581807		
FMP–03–DCO	302581807	302581807		
FMP–03–HPA	78140159	78140159		
FMP–03–DCO–HPA	156301487	146301487	146301488	156301487

FMP–04–DCO	156301487	156301487		
FMP–04–DCO–HPA	465234751	490234751		
FMP–04–HPA	297581807	312581807		
FMP–05	NA	NA	NA	

2. Test Case Selection

The Drive eRazer Pro SE Bundle was tested for its ability to overwrite sectors. The device supports two modes and performs the following tasks: (1) in Single-pass mode the device overwrites target drives using the ATA WRITE command and (2) in Secure Erase mode the device issues the ATA SECURITY ERASE command to the disk drive to remove content from the disk.

The test cases were selected from cases defined by *Forensic Media Preparation Tool Test Assertions and Test Plan Version 1.0* and applicable to features supported by this tool.

The following cases were used in testing the Drive eRazer Pro SE Bundle:

Test Case	Mode
FMP–01–ATA28	Single-pass
FMP–01–ATA48	Single-pass
FMP–01–SATA28	Single-pass
FMP–01–SATA48	Single-pass
FMP–02–ATA28	Secure Erase
FMP–02–ATA48	Secure Erase
FMP–02–SATA28	Secure Erase
FMP–02–SATA48	Secure Erase
FMP–03–DCO	Single-pass
FMP–03–DCO–HPA	Single-pass
FMP–03–HPA	Single-pass
FMP–04–DCO	Secure Erase
FMP–04–DCO–HPA	Secure Erase
FMP–04–HPA	Secure Erase
FMP–05	Secure Erase

The following source interfaces were used in testing: ATA28, ATA48, SATA28, and SATA48.

3. Test Materials

3.1 Support Software

Several programs were used in the setup and analysis of the test drives. These include **hdat2** (download from: http://www.hdat2.com/download.html), **dsumm** (download from: http://www.cftt.nist.gov/) and **diskwipe** from **FS–TST Release 2.0** (download from: http://www.cftt.nist.gov/diskimaging/fs-tst20.zip).

The **hdat2** program is used to create, remove and document hidden areas on a drive.

The **diskwipe** program initializes a hard drive with known content.

The **dsumm** program analyzes the content of a hard drive. It produces a summary of disk contents in terms of counts for each byte value present on the drive. For example, if a drive can contain 10 GB (19531250 sectors of 512 bytes per sector) and the drive is wiped with zero bytes, then **dsumm** reports 10,000,000,000 zero bytes. The program also prints the first sector found with printable ASCII content.

The **ransum** program examines a hard drive to identify sectors that do not contain the content written to the drive by the **diskwipe** program. The **ransum** output is a list of sector ranges classified as either *overwritten* or *unchanged*.

3.2 Test Drive Creation

The following steps are used to setup a test drive:

1. The drive is initially filled with known content by the **diskwipe** program from FS–TST. The **diskwipe** program writes the sector address to each sector in both C/H/S and LBA format. The remainder of the sector bytes is set to a constant fill value unique for each drive. The fill value is noted in the **diskwipe** tool log file.
2. The **dsumm** program analyzes the drive contents. This documents the content of the drive. Each sector has unique content after the setup.
3. If the drive is intended for hidden area tests (FMP–03, FMP–04), an HPA, a DCO or DCO+HPA are created.
4. The drive size after creation of a hidden area is recorded.

3.3 Test Drive Analysis

The following steps are used to analyze a test drive after it has been wiped by the tool under test:

1. The size of the drive is recorded. This determines if the tool changes the size of a hidden area.

2. Any hidden areas still present on the drive are removed.
3. The **dsumm** program is run to determine the final content of the drive.
4. The **ransum** program is run to classify sectors as either *overwritten* or *unchanged*.

3.4 Test Drives

The following hard drives were used in testing. The column labeled **Test Case** identifies the test case. The fill value written by **diskwipe** to initialize the drive is reported in the column labeled **Target Fill**. The column labeled **Sectors** is the size of the drive with no DCO or HPA. The column labeled **Model** is the model of the drive as returned by the ATA IDENTIFY DEVICE command. The column labeled **Serial #** is the serial number as returned by the ATA IDENTIFY DEVICE command.

Test Case	Target Fill (hex value)	Sectors	Model	Serial #
FMP–01–ATA28	19	156301488	FUJITSU MHW2080AT	K004T832CK2R
FMP–01–ATA48	29	488397168	WDC WD2500JB–00GVC0	WD–WCAL78188039
FMP–01–SATA28	1D	234441648	Hitachi HTS542512K9SA00	080914BB6200WBKPDL2G
FMP–01–SATA48	33	390721968	SAMSUNG SP2004C	S07GJ1ULC07896
FMP–02–ATA28	19	156301488	FUJITSU MHW2080AT	K004T832CK2R
FMP–02–ATA48	2A	490234752	Maxtor 7Y250P0	Y63FSHTE
FMP–02–SATA28	1C	234441648	WDC WD1200JD–00GBB0	WD–WMAES2049679
FMP–02–SATA48	16	312581808	TOSHIBA MK1649GSY	78JBT02RT
FMP–03–DCO	53	312581808	WDC WD1600JB–00GVC0	WD–WMAL94865344
FMP–03–DCO–HPA	18	156301488	FUJITSU MHW2080AT	K004T832CK3G
FMP–03–HPA	24	78140160	FUJITSU MHW2040BH	K10XT7B278AP
FMP–04–DCO	15	156301488	Hitachi HTS541680J9AT00	SB0241HGGAWY8E
FMP–04–DCO–HPA	24	490234752	Maxtor 7Y250P0	Y63FSHTE
FMP–04–HPA	53	312581808	WDC WD1600JB–00GVC0	WD–WMAL94865344
FMP–05	56	488397168	WD800BB–75CAA0	WMA8E2108916

The table that follows lists the drive configurations for hidden sector test cases. The column labeled **Test Case** identifies the test case. The column labeled **Size** is the number of visible sectors presented to the device for the test case. The column labeled **Hidden** is the size in sectors of the hidden area. The size of the drive including both visible and hidden sectors is reported in the column labeled **Total**.

Test Case	Size	Total	Hidden (DCO+HPA)
FMP–03–DCO	302581808	312581808	10000000
FMP–03–DCO–HPA	131301488	156301488	25000000 (10000000+15000000)
FMP–03–HPA	76640160	78140160	15000000
FMP–04–DCO	146301488	156301488	10000000
FMP–04–DCO–HPA	465234752	490234752	25000000 (10000000+15000000)
FMP–04–HPA	297581808	312581808	15000000

4. Test Results

The main item of interest for interpreting the test results is determining the conformance of the tool under test with the test assertions. Conformance with each assertion tested by a

given test case is evaluated by examining the **Log Highlights** box of the test report summary.

4.1 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.

Heading	Description
First Line:	Test case ID, name and version of tool tested.
Case Summary:	Test case summary from *Forensic Media Preparation Tool Test Assertions and Test Plan Version 1.0.*
Assertions:	The test assertions applicable to the test case, selected from *Forensic Media Preparation Tool Test Assertions and Test Plan Version 1.0.*
Tester Name:	Name or initials of person executing test procedure.
Analysis Host:	Host used to setup test drive and analyze final drive state.
Test Host:	Host computer executing the test.
Test Date:	Time and date that test was started.
Test Drive:	Drive erased by the tool under test.
Source Setup:	Report of the native drive size, the size of any hidden areas, the apparent size of the drive (as reported by an ATA IDENTIFY DEVICE command) and an analysis of initial drive contents.
Tool Settings:	Report of tool parameters set for each test run.
Log Highlights:	Report of the state of the drive after executing the tool under test, including the apparent drive size, size of hidden area and analysis of drive contents. The ASCII content of the first non-binary-zero sector is reported.
Results:	Expected and actual results for each assertion tested.
Analysis:	Whether or not the expected results were achieved.

4.2 Test Details

4.2.1 FMP–01–ATA28

Test Case FMP-01-ATA28 Drive eRazer Pro SE Bundle 12/03/2009	
Case Summary:	FMP-01. Overwrite visible sectors using WRITE commands.
Assertions:	FMP-CA-01 All visible sectors shall be overwritten with the specified benign data.
Tester Name:	Csr
Analysis host:	Frank
Test host:	None
Test date:	Thu Jan 14 16:48:48 2010
Test drive:	19-LAP
Source Setup:	Initial setup size: 156301488 from total of 156301488 (with 0 hidden) IDE disk: Model (FUJITSU MHW2080AT) serial # (K004T832CK2R) Sector 0 is first sector with printable text ============= Start text ============= 00000/000/01 000000000000 ============= End text Sector 0 ============= 1 <new line> character inserted for readability

Test Case FMP-01-ATA28 Drive eRazer Pro SE Bundle 12/03/2009

```
Totals for all sectors
summary format: <count> <hex value> <(actual character if printable)> ...
   156301488 00      75907021680 19        156301488 20 ( )
   312602976 2F (/)   1092738319 30 (0)    445157427 31 (1)
   274740905 32 (2)    274642393 33 (3)    272159917 34 (4)
   262536293 35 (5)    225709546 36 (6)    215483146 37 (7)
   215483143 38 (8)    215483135 39 (9)
Totals for non-ASCII sectors
summary format: <count> <hex value> <(actual character if printable)> ...

80026361856 bytes, 156301488 sectors, 14 distinct values seen
156301488 sectors have printable text
```

Log Highlights:

```
Size after tool runs: 156301488 from total of 156301488 (with 0 hidden)
Analysis of tool result --
Totals for all sectors
summary format: <count> <hex value> <(actual character if printable)> ...
 80026361856 00
Totals for non-ASCII sectors
summary format: <count> <hex value> <(actual character if printable)> ...
 80026361856 00

80026361856 bytes, 156301488 sectors, 1 distinct values seen
No sectors have printable text


    Runs of Sectors Unchanged or Overwritten
First Sector      Last Sector      State
           0 --    156301487   Overwritten
```

Results:

Assertion & Expected Result	Actual Result
FMP-CA-01 Visible sectors overwritten	as expected

Analysis: Expected results achieved

4.2.2 FMP–01–ATA48

Test Case FMP-01-ATA48 Drive eRazer Pro SE Bundle 12/03/2009	
Case Summary:	FMP-01. Overwrite visible sectors using WRITE commands.
Assertions:	FMP-CA-01 All visible sectors shall be overwritten with the specified benign data.
Tester Name:	Csr
Analysis host:	Frank
Test host:	None
Test date:	Wed Jan 13 10:59:18 2010
Test drive:	29-IDE
Source Setup:	Initial setup size: 488397168 from total of 488397168 (with 0 hidden) IDE disk: Model (WDC WD2500JB-00GVC0) serial # (WD-WCAL78188039) Sector 0 is first sector with printable text ============= Start text ============= 00000/000/01 000000000000)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))) ============= End text Sector 0 ============= 9 <new line> characters inserted for readability Totals for all sectors summary format: <count> <hex value> <(actual character if printable)> ... 488397168 00 488397168 20 ( ) 237361023648 29 ()) 976794336 2F (/) 2735169210 30 (0) 1278997882 31 (1) 1192805876 32 (2) 933260747 33 (3) 905775911 34 (4) 805865997 35 (5) 749775664 36 (6) 718765480 37 (7) 716559080 38 (8) 707761849 39 (9) Totals for non-ASCII sectors summary format: <count> <hex value> <(actual character if printable)> ... 250059350016 bytes, 488397168 sectors, 14 distinct values seen 488397168 sectors have printable text
Log Highlights:	Size after tool runs: 488397168 from total of 488397168 (with 0 hidden) Analysis of tool result -- Totals for all sectors summary format: <count> <hex value> <(actual character if printable)> ... 250059350016 00 Totals for non-ASCII sectors summary format: <count> <hex value> <(actual character if printable)> ... 250059350016 00 250059350016 bytes, 488397168 sectors, 1 distinct values seen No sectors have printable text Runs of Sectors Unchanged or Overwritten First Sector Last Sector State 0 -- 488397167 Overwritten
Results:	**Assertion & Expected Result** / **Actual Result** FMP-CA-01 Visible sectors overwritten / as expected
Analysis:	Expected results achieved

4.2.3 FMP–01–SATA28

Test Case FMP-01-SATA28 Drive eRazer Pro SE Bundle 12/03/2009	
Case Summary:	FMP-01. Overwrite visible sectors using WRITE commands.
Assertions:	FMP-CA-01 All visible sectors shall be overwritten with the specified benign data.
Tester Name:	Csr
Analysis host:	frank
Test host:	none
Test date:	Mon Jan 11 17:04:26 2010
Test drive:	1D-LAP
Source Setup:	Initial setup size: 234441648 from total of 234441648 (with 0 hidden) IDE disk: Model (Hitachi HTS542512K9SA00) serial # (080914BB6200WBKPDL2G) Sector 0 is first sector with printable text ============= Start text ============= 00000/000/01 000000000000 ============= End text Sector 0 ============= 1 <new line> character inserted for readability Totals for all sectors summary format: <count> <hex value> <(actual character if printable)> ... 234441648 00 113938640928 1D 234441648 20 ( ) 468883296 2F (/) 1461085523 30 (0) 678339301 31 (1) 497617498 32 (2) 407041791 33 (3) 391715334 34 (4) 376075228 35 (5) 347651457 36 (6) 332766225 37 (7) 332765657 38 (8) 332658242 39 (9) Totals for non-ASCII sectors summary format: <count> <hex value> <(actual character if printable)> ... 120034123776 bytes, 234441648 sectors, 14 distinct values seen 234441648 sectors have printable text
Log Highlights:	Size after tool runs: 234441648 from total of 234441648 (with 0 hidden) Analysis of tool result -- Totals for all sectors summary format: <count> <hex value> <(actual character if printable)> ... 120034123776 00 Totals for non-ASCII sectors summary format: <count> <hex value> <(actual character if printable)> ... 120034123776 00 120034123776 bytes, 234441648 sectors, 1 distinct values seen No sectors have printable text Runs of Sectors Unchanged or Overwritten First Sector Last Sector State 0 -- 234441647 Overwritten
Results:	**Assertion & Expected Result** / **Actual Result** FMP-CA-01 Visible sectors overwritten / as expected
Analysis:	Expected results achieved

4.2.4 FMP–01–SATA48

<table>
<tr><td colspan="2">Test Case FMP-01-SATA48 Drive eRazer Pro SE Bundle 12/03/2009</td></tr>
<tr><td>Case Summary:</td><td>FMP-01. Overwrite visible sectors using WRITE commands.</td></tr>
<tr><td>Assertions:</td><td>FMP-CA-01 All visible sectors shall be overwritten with the specified benign data.</td></tr>
<tr><td>Tester Name:</td><td>Csr</td></tr>
<tr><td>Analysis host:</td><td>frank</td></tr>
<tr><td>Test host:</td><td>None</td></tr>
<tr><td>Test date:</td><td>Wed Jan 20 08:33:35 2010</td></tr>
<tr><td>Test drive:</td><td>33-SATA</td></tr>
<tr><td>Source Setup:</td><td>Initial setup size: 390721968 from total of 390721968 (with 0 hidden)
IDE disk: Model (SAMSUNG SP2004C) serial # (S07GJ1ULC07896)

Sector 0 is first sector with printable text
============= Start text =============
00000/000/01 0000000000003333333333333333333333333333333333
3333333333333333333333333333333333333333333333333333333333
3333333333333333333333333333333333333333333333333333333333
3333333333333333333333333333333333333333333333333333333333
3333333333333333333333333333333333333333333333333333333333
3333333333333333333333333333333333333333333333333333333333
3333333333333333333333333333333333333333333333333333333333
3333333333333333333333333333333333333333333333333333333333
3333333333333333333333333333333333333333333333333333333333
33333333333333333333333333
============= End text Sector 0 =============
9 <new line> characters inserted for readability

Totals for all sectors
summary format: <count> <hex value> <(actual character if printable)> ...
390721968 00 390721968 20 ( ) 781443936 2F (/)
2245711842 30 (0) 1085211682 31 (1) 924880030 32 (2)
190651497045 33 (3) 652451193 34 (4) 638095887 35 (5)
593223154 36 (6) 568337370 37 (7) 568314834 38 (8)
559036707 39 (9)
Totals for non-ASCII sectors
summary format: <count> <hex value> <(actual character if printable)> ...

200049647616 bytes, 390721968 sectors, 13 distinct values seen
390721968 sectors have printable text</td></tr>
<tr><td>Log Highlights:</td><td>Size after tool runs: 390721968 from total of 390721968 (with 0 hidden)
Analysis of tool result --
Totals for all sectors
summary format: <count> <hex value> <(actual character if printable)> ...
200049647616 00
Totals for non-ASCII sectors
summary format: <count> <hex value> <(actual character if printable)> ...
200049647616 00

200049647616 bytes, 390721968 sectors, 1 distinct values seen
No sectors have printable text

Runs of Sectors Unchanged or Overwritten
First Sector Last Sector State
0 -- 390721967 Overwritten</td></tr>
<tr><td>Results:</td><td><table><tr><th>Assertion & Expected Result</th><th>Actual Result</th></tr><tr><td>FMP-CA-01 Visible sectors overwritten</td><td>as expected</td></tr></table></td></tr>
<tr><td>Analysis:</td><td>Expected results achieved</td></tr>
</table>

4.2.5 FMP–02–ATA28

Test Case FMP-02-ATA28 Drive eRazer Pro SE Bundle 12/03/2009	
Case Summary:	FMP-02. Overwrite visible sectors using an ERASE command.
Assertions:	FMP-AO-03 If the tool supports overwrite command selection and an ERASE command is selected then all visible sectors are overwritten.
Tester Name:	Csr
Analysis host:	Frank
Test host:	None
Test date:	Mon Jan 25 11:03:45 2010
Test drive:	19-LAP
Source Setup:	Initial setup size: 156301488 from total of 156301488 (with 0 hidden) IDE disk: Model (FUJITSU MHW2080AT) serial # (K004T832CK2R) Sector 0 is first sector with printable text ============= Start text ============= 00000/000/01 000000000000 ============= End text Sector 0 ============= 1 <new line> character inserted for readability Totals for all sectors summary format: <count> <hex value> <(actual character if printable)> ... 156301488 00 75907021680 19 156301488 20 ( ) 312602976 2F (/) 1092738319 30 (0) 445157427 31 (1) 274740905 32 (2) 274642393 33 (3) 272159917 34 (4) 262536293 35 (5) 225709546 36 (6) 215483146 37 (7) 215483143 38 (8) 215483135 39 (9) Totals for non-ASCII sectors summary format: <count> <hex value> <(actual character if printable)> ... 80026361856 bytes, 156301488 sectors, 14 distinct values seen 156301488 sectors have printable text
Log Highlights:	Size after tool runs: 156301488 from total of 156301488 (with 0 hidden) Analysis of tool result -- Totals for all sectors summary format: <count> <hex value> <(actual character if printable)> ... 80026361856 00 Totals for non-ASCII sectors summary format: <count> <hex value> <(actual character if printable)> ... 80026361856 00 80026361856 bytes, 156301488 sectors, 1 distinct values seen No sectors have printable text Runs of Sectors Unchanged or Overwritten First Sector Last Sector State 0 -- 156301487 Overwritten
Results:	**Assertion & Expected Result** / **Actual Result** FMP-AO-03 Visible sectors erased / as expected
Analysis:	Expected results achieved

4.2.6 FMP–02–ATA48

<table>
<tr><td colspan="2">Test Case FMP-02-ATA48 Drive eRazer Pro SE Bundle 12/03/2009</td></tr>
<tr><td>Case Summary:</td><td>FMP-02. Overwrite visible sectors using an ERASE command.</td></tr>
<tr><td>Assertions:</td><td>FMP-AO-03 If the tool supports overwrite command selection and an ERASE command is selected then all visible sectors are overwritten.</td></tr>
<tr><td>Tester Name:</td><td>Csr</td></tr>
<tr><td>Analysis host:</td><td>Frank</td></tr>
<tr><td>Test host:</td><td>None</td></tr>
<tr><td>Test date:</td><td>Wed Jan 27 17:15:14 2010</td></tr>
<tr><td>Test drive:</td><td>2A-IDE</td></tr>
<tr><td>Source Setup:</td><td>Initial setup size: 490234752 from total of 490234752 (with 0 hidden)
IDE disk: Model (Maxtor 7Y250P0) serial # (Y63FSHTE)

Sector 0 is first sector with printable text
============= Start text =============
00000/000/01 000000000000**********
****
****
****
****
****
****
****
****
========== End text Sector 0 ==========
9 <new line> characters inserted for readability

Totals for all sectors
summary format: <count> <hex value> <(actual character if printable)> ...
490234752 00 490234752 20 ( ) 238254089472 2A (*)
980469504 2F (/) 2745916670 30 (0) 1282185547 31 (1)
1195513694 32 (2) 937373971 33 (3) 911537467 34 (4)
808408249 35 (5) 751843469 36 (6) 720717342 37 (7)
720716723 38 (8) 710951412 39 (9)
Totals for non-ASCII sectors
summary format: <count> <hex value> <(actual character if printable)> ...

251000193024 bytes, 490234752 sectors, 14 distinct values seen
490234752 sectors have printable text</td></tr>
<tr><td>Log Highlights:</td><td>Size after tool runs: 490234752 from total of 490234752 (with 0 hidden)
Analysis of tool result --
Totals for all sectors
summary format: <count> <hex value> <(actual character if printable)> ...
251000193024 00
Totals for non-ASCII sectors
summary format: <count> <hex value> <(actual character if printable)> ...
251000193024 00

251000193024 bytes, 490234752 sectors, 1 distinct values seen
No sectors have printable text

Runs of Sectors Unchanged or Overwritten
First Sector Last Sector State
0 -- 490234751 Overwritten</td></tr>
<tr><td>Results:</td><td><table><tr><th>Assertion & Expected Result</th><th>Actual Result</th></tr><tr><td>FMP-AO-03 Visible sectors erased</td><td>as expected</td></tr></table></td></tr>
<tr><td>Analysis:</td><td>Expected results achieved</td></tr>
</table>

4.2.7 FMP–02–SATA28

<table>
<tr><td colspan="2">Test Case FMP-02-SATA28 Drive eRazer Pro SE Bundle 12/03/2009</td></tr>
<tr><td>Case Summary:</td><td>FMP-02. Overwrite visible sectors using an ERASE command.</td></tr>
<tr><td>Assertions:</td><td>FMP-AO-03 If the tool supports overwrite command selection and an ERASE command is selected then all visible sectors are overwritten.</td></tr>
<tr><td>Tester Name:</td><td>Csr</td></tr>
<tr><td>Analysis host:</td><td>Frank</td></tr>
<tr><td>Test host:</td><td>None</td></tr>
<tr><td>Test date:</td><td>Fri Jan 22 08:53:36 2010</td></tr>
<tr><td>Test drive:</td><td>1C-SATA</td></tr>
<tr><td>Source Setup:</td><td>Initial setup size: 234441648 from total of 234441648 (with 0 hidden)
IDE disk: Model (WDC WD1200JD-00GBB0) serial # (WD-WMAES2049679)

Sector 0 is first sector with printable text
============= Start text =============
00000/000/01 000000000000
============= End text Sector 0 =============
1 <new line> character inserted for readability

Totals for all sectors
summary format: <count> <hex value> <(actual character if printable)> ...
234441648 00 113938640928 1C 234441648 20 ( )
468883296 2F (/) 1461085523 30 (0) 678339301 31 (1)
497617498 32 (2) 407041791 33 (3) 391715334 34 (4)
376075228 35 (5) 347651457 36 (6) 332766225 37 (7)
332765657 38 (8) 332658242 39 (9)
Totals for non-ASCII sectors
summary format: <count> <hex value> <(actual character if printable)> ...

120034123776 bytes, 234441648 sectors, 14 distinct values seen
234441648 sectors have printable text</td></tr>
<tr><td>Log Highlights:</td><td>Size after tool runs: 234441648 from total of 234441648 (with 0 hidden)
Analysis of tool result --
Totals for all sectors
summary format: <count> <hex value> <(actual character if printable)> ...
120034123776 00
Totals for non-ASCII sectors
summary format: <count> <hex value> <(actual character if printable)> ...
120034123776 00

120034123776 bytes, 234441648 sectors, 1 distinct values seen
No sectors have printable text</td></tr>
<tr><td>Results:</td><td><table><tr><th>Assertion & Expected Result</th><th>Actual Result</th></tr><tr><td>FMP-AO-03 Visible sectors erased</td><td>as expected</td></tr></table></td></tr>
<tr><td>Analysis:</td><td>Expected results achieved</td></tr>
</table>

4.2.8 FMP–02–SATA48

<table>
<tr><td colspan="2">Test Case FMP-02-SATA48 Drive eRazer Pro SE Bundle 12/03/2009</td></tr>
<tr><td>Case Summary:</td><td>FMP-02. Overwrite visible sectors using an ERASE command.</td></tr>
<tr><td>Assertions:</td><td>FMP-AO-03 If the tool supports overwrite command selection and an ERASE command is selected then all visible sectors are overwritten.</td></tr>
<tr><td>Tester Name:</td><td>Csr</td></tr>
<tr><td>Analysis host:</td><td>Frank</td></tr>
<tr><td>Test host:</td><td>None</td></tr>
<tr><td>Test date:</td><td>Tue Jan 26 15:34:01 2010</td></tr>
<tr><td>Test drive:</td><td>16-LAP</td></tr>
<tr><td>Source Setup:</td><td>Initial setup size: 312581808 from total of 312581808 (with 0 hidden)
IDE disk: Model (TOSHIBA MK1649GSY) serial # (78JBT02RT)

Sector 0 is first sector with printable text
============= Start text =============
00000/000/01 000000000000
============= End text Sector 0 =============
1 <new line> character inserted for readability

Totals for all sectors
summary format: <count> <hex value> <(actual character if printable)> ...
312581808 00 151914758688 16 312581808 20 ( )
625163616 2F (/) 1850492169 30 (0) 906528227 31 (1)
696435016 32 (2) 541016511 33 (3) 522787395 34 (4)
514450557 35 (5) 478352540 36 (6) 458495114 37 (7)
458481159 38 (8) 449761088 39 (9)
Totals for non-ASCII sectors
summary format: <count> <hex value> <(actual character if printable)> ...

160041885696 bytes, 312581808 sectors, 14 distinct values seen
312581808 sectors have printable text</td></tr>
<tr><td>Log Highlights:</td><td>Size after tool runs: 312581808 from total of 312581808 (with 0 hidden)
Analysis of tool result --
Totals for all sectors
summary format: <count> <hex value> <(actual character if printable)> ...
160041885696 00
Totals for non-ASCII sectors
summary format: <count> <hex value> <(actual character if printable)> ...
160041885696 00

160041885696 bytes, 312581808 sectors, 1 distinct values seen
No sectors have printable text

Runs of Sectors Unchanged or Overwritten
First Sector Last Sector State
0 -- 312581807 Overwritten</td></tr>
<tr><td>Results:</td><td><table><tr><th>Assertion & Expected Result</th><th>Actual Result</th></tr><tr><td>FMP-AO-03 Visible sectors erased</td><td>as expected</td></tr></table></td></tr>
<tr><td>Analysis:</td><td>Expected results achieved</td></tr>
</table>

4.2.9 FMP–03–DCO

Test Case FMP-03-DCO Drive eRazer Pro SE Bundle 12/03/2009	
Case Summary:	FMP-03. Overwrite hidden sectors using WRITE commands.
Assertions:	FMP-CA-01 All visible sectors shall be overwritten with the specified benign data. FMP-AO-01 If there is a hidden area present and the tool supports overwriting sectors contained in a hidden area, then all sectors contained in the hidden area shall be overwritten with the specified benign data. FMP-AO-02 A hidden area may optionally be removed from the storage device.
Tester Name:	Csr
Analysis host:	Frank
Test host:	None
Test date:	Fri Jan 15 13:42:30 2010
Test drive:	53-IDE
Source Setup:	Size with DCO: 302581808 154.92 GB (10000000 sectors in DCO) Initial setup size: 302581808 from total of 312581808 (with 10000000 hidden) IDE disk: Model (WDC WD1600JB-00GVC0) serial # (WD-WMAL94865344) Sector 0 is first sector with printable text ============= Start text ============= 00000/000/01 000000000000SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS ============= End text Sector 0 ============= 9 <new line> characters inserted for readability Totals for all sectors summary format: <count> <hex value> <(actual character if printable)> ... 302581808 00 302581808 20 ( ) 605163616 2F (/) 1794007028 30 (0) 874566914 31 (1) 678816046 32 (2) 515472446 33 (3) 508007427 34 (4) 500856369 35 (5) 466024484 36 (6) 446812944 37 (7) 443104775 38 (8) 429131343 39 (9) 147054758688 53 (S) Totals for non-ASCII sectors summary format: <count> <hex value> <(actual character if printable)> ... 154921885696 bytes, 302581808 sectors, 14 distinct values seen 302581808 sectors have printable text
Log Highlights:	Size after tool runs: 312581808 from total of 312581808 (with 0 hidden) Analysis of tool result -- Totals for all sectors summary format: <count> <hex value> <(actual character if printable)> ... 160041885696 00 Totals for non-ASCII sectors summary format: <count> <hex value> <(actual character if printable)> ... 160041885696 00 160041885696 bytes, 312581808 sectors, 1 distinct values seen No sectors have printable text Runs of Sectors Unchanged or Overwritten First Sector Last Sector State 0 -- 312581807 Overwritten
Results:	**Assertion & Expected Result** | **Actual Result**

Test Case FMP-03-DCO Drive eRazer Pro SE Bundle 12/03/2009			
	FMP-CA-01 Visible sectors overwritten	as expected	
	FMP-AO-01 Hidden sectors overwritten	as expected	
	FMP-AO-02 Hidden area final state is	removed	
Analysis:	Expected results achieved		

4.2.10 FMP–03–DCO–HPA

Test Case FMP-03-DCO-HPA Drive eRazer Pro SE Bundle 12/03/2009	
Case Summary:	FMP-03. Overwrite hidden sectors using WRITE commands.
Assertions:	FMP-CA-01 All visible sectors shall be overwritten with the specified benign data. FMP-AO-01 If there is a hidden area present and the tool supports overwriting sectors contained in a hidden area, then all sectors contained in the hidden area shall be overwritten with the specified benign data. FMP-AO-02 A hidden area may optionally be removed from the storage device.
Tester Name:	Csr
Analysis host:	Frank
Test host:	None
Test date:	Thu Jan 21 09:28:36 2010
Test drive:	18-LAP
Source Setup:	Size with DCO: 146301488 74.91 GB (10000000 sectors in DCO) Size with HPA: 146301488 74.91 GB (0 sectors in HPA) Initial setup size: 131301488 from total of 156301488 (with 25000000 hidden) IDE disk: Model (FUJITSU MHW2080AT) serial # (K004T832CK3G) Sector 0 is first sector with printable text ============= Start text ============= 00000/000/01 000000000000 ============= End text Sector 0 ============= 1 <new line> character inserted for readability Totals for all sectors summary format: <count> <hex value> <(actual character if printable)> ... 146301488 00 71057021680 18 146301488 20 ( ) 292602976 2F (/) 1031882339 30 (0) 406485727 31 (1) 259778655 32 (2) 259680143 33 (3) 248749661 34 (4) 236399701 35 (5) 212482354 36 (6) 202891886 37 (7) 202891883 38 (8) 202891875 39 (9) Totals for non-ASCII sectors summary format: <count> <hex value> <(actual character if printable)> ... 74906361856 bytes, 146301488 sectors, 14 distinct values seen 146301488 sectors have printable text
Log Highlights:	Size after tool runs: 146301488 from total of 156301488 (with 10000000 hidden) Analysis of tool result -- Sector 146301488 is first sector with printable text ============= Start text ============= 145140/005/54 000146301488 ============= End text Sector 146301488 ============= 1 <new line> character inserted for readability Totals for all sectors summary format: <count> <hex value> <(actual character if printable)> ... 74916361856 00 4850000000 18 10000000 20 ( ) 20000000 2F (/) 60855980 30 (0) 38671700 31 (1) 14962250 32 (2) 14962250 33 (3) 23410256 34 (4) 26136592 35 (5) 13227192 36 (6) 12591260 37 (7) 12591260 38 (8) 12591260 39 (9) Totals for non-ASCII sectors summary format: <count> <hex value> <(actual character if printable)> ... 74906361856 00 80026361856 bytes, 156301488 sectors, 14 distinct values seen 10000000 sectors have printable text

<table>
<tr><td colspan="3">Test Case FMP-03-DCO-HPA Drive eRazer Pro SE Bundle 12/03/2009</td></tr>
<tr><td></td><td colspan="2">Runs of Sectors Unchanged or Overwritten
First Sector Last Sector State
0 -- 146301487 Overwritten
146301488 -- 156301487 Unchanged</td></tr>
<tr><td>Results:</td><td colspan="2"><table>
<tr><th>Assertion & Expected Result</th><th>Actual Result</th></tr>
<tr><td>FMP-CA-01 Visible sectors overwritten</td><td>as expected</td></tr>
<tr><td>FMP-AO-01 Hidden sectors overwritten</td><td>HPA overwritten, DCO unchanged</td></tr>
<tr><td>FMP-AO-02 Hidden area final state is</td><td>resized (146301488 with 10000000 hidden)</td></tr>
</table></td></tr>
<tr><td>Analysis:</td><td colspan="2">Expected results not achieved</td></tr>
</table>

4.2.11 FMP–03–HPA

Test Case FMP-03-HPA Drive eRazer Pro SE Bundle 12/03/2009	
Case Summary:	FMP-03. Overwrite hidden sectors using WRITE commands.
Assertions:	FMP-CA-01 All visible sectors shall be overwritten with the specified benign data. FMP-AO-01 If there is a hidden area present and the tool supports overwriting sectors contained in a hidden area, then all sectors contained in the hidden area shall be overwritten with the specified benign data. FMP-AO-02 A hidden area may optionally be removed from the storage device.
Tester Name:	Csr
Analysis host:	Frank
Test host:	None
Test date:	Thu Jan 21 15:10:02 2010
Test drive:	24-LAP
Source Setup:	Size with HPA: 76640160 39.24 GB (1500000 sectors in HPA) Initial setup size: 76640160 from total of 78140160 (with 1500000 hidden) IDE disk: Model (FUJITSU MHW2040BH) serial # (K10XT7B278AP) Sector 0 is first sector with printable text ============= Start text ============= 00000/000/01 000000000000$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$ $$ $$ $$ $$ $$ $$ $$ $$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$ ============= End text Sector 0 ============= 9 <new line> characters inserted for readability Totals for all sectors summary format: <count> <hex value> <(actual character if printable)> ... 78140160 00 78140160 20 ( ) 37976117760 24 ($) 156280320 2F (/) 561878293 30 (0) 173598093 31 (1) 159768433 32 (2) 142914673 33 (3) 139463608 34 (4) 123744696 35 (5) 114674216 36 (6) 107788836 37 (7) 98210496 38 (8) 97042176 39 (9) Totals for non-ASCII sectors summary format: <count> <hex value> <(actual character if printable)> ... 40007761920 bytes, 78140160 sectors, 14 distinct values seen 78140160 sectors have printable text
Log Highlights:	Size after tool runs: 78140160 from total of 78140160 (with 0 hidden) Analysis of tool result -- Totals for all sectors summary format: <count> <hex value> <(actual character if printable)> ... 40007761920 00 Totals for non-ASCII sectors summary format: <count> <hex value> <(actual character if printable)> ... 40007761920 00 40007761920 bytes, 78140160 sectors, 1 distinct values seen No sectors have printable text Runs of Sectors Unchanged or Overwritten First Sector Last Sector State 0 -- 78140159 Overwritten
Results:	**Assertion & Expected Result** | **Actual Result**

Test Case FMP-03-HPA Drive eRazer Pro SE Bundle 12/03/2009			
	FMP-CA-01 Visible sectors overwritten	as expected	
	FMP-AO-01 Hidden sectors overwritten	as expected	
	FMP-AO-02 Hidden area final state is	removed	
Analysis:	Expected results achieved		

4.2.12 FMP–04–DCO

<table>
<tr><td colspan="2">Test Case FMP-04-DCO Drive eRazer Pro SE Bundle 12/03/2009</td></tr>
<tr><td>Case Summary:</td><td>FMP-04. Overwrite hidden sectors using an ERASE command.</td></tr>
<tr><td>Assertions:</td><td>FMP-AO-01 If there is a hidden area present and the tool supports overwriting sectors contained in a hidden area, then all sectors contained in the hidden area shall be overwritten with the specified benign data.
FMP-AO-02 A hidden area may optionally be removed from the storage device.
FMP-AO-03 If the tool supports overwrite command selection and an ERASE command is selected then all visible sectors are overwritten.</td></tr>
<tr><td>Tester Name:</td><td>Csr</td></tr>
<tr><td>Analysis host:</td><td>Frank</td></tr>
<tr><td>Test host:</td><td>None</td></tr>
<tr><td>Test date:</td><td>Wed Feb 17 16:18:04 2010</td></tr>
<tr><td>Test drive:</td><td>15-LAP</td></tr>
<tr><td>Source Setup:</td><td>Size with DCO: 146301488 74.91 GB (10000000 sectors in DCO)
Initial setup size: 146301488 from total of 156301488 (with 10000000 hidden)
IDE disk: Model (Hitachi HTS541680J9AT00) serial # (SB0241HGGAWY8E)

Sector 0 is first sector with printable text
============= Start text =============
00000/000/01 000000000000
============= End text Sector 0 =============
1 <new line> character inserted for readability

Totals for all sectors
summary format: <count> <hex value> <(actual character if printable)> ...
146301488 00 71102523168 15 146301488 20 ( )
292602976 2F (/) 993890325 30 (0) 358021591 31 (1)
285788447 32 (2) 254136647 33 (3) 248114389 34 (4)
238370729 35 (5) 220867833 36 (6) 211263767 37 (7)
211263764 38 (8) 196915244 39 (9)
Totals for non-ASCII sectors
summary format: <count> <hex value> <(actual character if printable)> ...

74906361856 bytes, 146301488 sectors, 14 distinct values seen
146301488 sectors have printable text</td></tr>
<tr><td>Log Highlights:</td><td>Size after tool runs: 156301488 from total of 156301488 (with 0 hidden)
Analysis of tool result --
Totals for all sectors
summary format: <count> <hex value> <(actual character if printable)> ...
80026361856 00
Totals for non-ASCII sectors
summary format: <count> <hex value> <(actual character if printable)> ...
80026361856 00

80026361856 bytes, 156301488 sectors, 1 distinct values seen
No sectors have printable text

Runs of Sectors Unchanged or Overwritten
First Sector Last Sector State
0 -- 156301487 Overwritten</td></tr>
<tr><td>Results:</td><td>
<table>
<tr><th>Assertion & Expected Result</th><th>Actual Result</th></tr>
<tr><td>FMP-AO-01 Hidden sectors overwritten</td><td>as expected</td></tr>
<tr><td>FMP-AO-02 Hidden area final state is</td><td>Removed</td></tr>
<tr><td>FMP-AO-03 Visible sectors erased</td><td>as expected</td></tr>
</table>
</td></tr>
<tr><td>Analysis:</td><td>Expected results achieved</td></tr>
</table>

4.2.13 FMP–04–DCO–HPA

Test Case FMP-04-DCO-HPA Drive eRazer Pro SE Bundle 12/03/2009	
Case Summary:	FMP-04. Overwrite hidden sectors using an ERASE command.
Assertions:	FMP-AO-01 If there is a hidden area present and the tool supports overwriting sectors contained in a hidden area, then all sectors contained in the hidden area shall be overwritten with the specified benign data. FMP-AO-02 A hidden area may optionally be removed from the storage device. FMP-AO-03 If the tool supports overwrite command selection and an ERASE command is selected then all visible sectors are overwritten.
Tester Name:	csr
Analysis host:	frank
Test host:	none
Test date:	Thu Feb 18 14:16:55 2010
Test drive:	2A-IDE
Source Setup:	Size with DCO: 480234752 245.88 GB (10000000 sectors in DCO) Size with HPA: 465234752 238.20 GB (15000000 sectors in HPA) Initial setup size: 465234752 from total of 490234752 (with 25000000 hidden) IDE disk: Model (Maxtor 7Y250P0) serial # (Y63FSHTE) Sector 0 is first sector with printable text ============= Start text ============= 00000/000/01 000000000000********** ********** ********** ********** ********** ********** ********** ********** ********** ============= End text Sector 0 ============= 9 <new line> characters inserted for readability Totals for all sectors summary format: <count> <hex value> <(actual character if printable)> ... 480234752 00 480234752 20 ( ) 233394089472 2A (*) 960469504 2F (/) 2688406892 30 (0) 1262709725 31 (1) 1176182573 32 (2) 913616218 33 (3) 886219489 34 (4) 794684344 35 (5) 739530848 36 (6) 709039708 37 (7) 699165650 38 (8) 695609097 39 (9) Totals for non-ASCII sectors summary format: <count> <hex value> <(actual character if printable)> ... 245880193024 bytes, 480234752 sectors, 14 distinct values seen 480234752 sectors have printable text
Log Highlights:	Size after tool runs: 490234752 from total of 490234752 (with 0 hidden) Analysis of tool result -- Totals for all sectors summary format: <count> <hex value> <(actual character if printable)> ... 251000193024 00 Totals for non-ASCII sectors summary format: <count> <hex value> <(actual character if printable)> ... 251000193024 00 251000193024 bytes, 490234752 sectors, 1 distinct values seen No sectors have printable text Runs of Sectors Unchanged or Overwritten First Sector Last Sector State 0 -- 490234751 Overwritten

Test Case FMP-04-DCO-HPA Drive eRazer Pro SE Bundle 12/03/2009		
Results:	**Assertion & Expected Result**	**Actual Result**
	FMP-AO-01 Hidden sectors overwritten	as expected
	FMP-AO-02 Hidden area final state is	removed
	FMP-AO-03 Visible sectors erased	as expected
Analysis:	Expected results achieved	

4.2.14 FMP–04–HPA

Test Case FMP-04-HPA Drive eRazer Pro SE Bundle 12/03/2009	
Case Summary:	FMP-04. Overwrite hidden sectors using an ERASE command.
Assertions:	FMP-AO-01 If there is a hidden area present and the tool supports overwriting sectors contained in a hidden area, then all sectors contained in the hidden area shall be overwritten with the specified benign data. FMP-AO-02 A hidden area may optionally be removed from the storage device. FMP-AO-03 If the tool supports overwrite command selection and an ERASE command is selected then all visible sectors are overwritten.
Tester Name:	Csr
Analysis host:	Frank
Test host:	None
Test date:	Tue Feb 16 15:27:16 2010
Test drive:	53-IDE
Source Setup:	Size with HPA: 297581808 152.36 GB (15000000 sectors in HPA) Initial setup size: 297581808 from total of 312581808 (with 15000000 hidden) IDE disk: Model (WDC WD1600JB-00GVC0) serial # (WD-WMAL94865344) Sector 0 is first sector with printable text ============= Start text ============= 00000/000/01 000000000000SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS ============= End text Sector 0 ============= 9 <new line> characters inserted for readability Totals for all sectors summary format: <count> <hex value> <(actual character if printable)> ... 312581808 00 312581808 20 ( ) 625163616 2F (/) 1850492169 30 (0) 906528227 31 (1) 696435016 32 (2) 541016511 33 (3) 522787395 34 (4) 514450557 35 (5) 478352540 36 (6) 458495114 37 (7) 458481159 38 (8) 449761088 39 (9) 151914758688 53 (S) Totals for non-ASCII sectors summary format: <count> <hex value> <(actual character if printable)> ... 160041885696 bytes, 312581808 sectors, 14 distinct values seen 312581808 sectors have printable text
Log Highlights:	Size after tool runs: 312581808 from total of 312581808 (with 0 hidden) Analysis of tool result -- Totals for all sectors summary format: <count> <hex value> <(actual character if printable)> ... 160041885696 00 Totals for non-ASCII sectors summary format: <count> <hex value> <(actual character if printable)> ... 160041885696 00 160041885696 bytes, 312581808 sectors, 1 distinct values seen No sectors have printable text Runs of Sectors Unchanged or Overwritten First Sector Last Sector State 0 -- 312581807 Overwritten
Results:	**Assertion & Expected Result** | **Actual Result**

Test Case FMP-04-HPA Drive eRazer Pro SE Bundle 12/03/2009		
	FMP-AO-01 Hidden sectors overwritten	as expected
	FMP-AO-02 Hidden area final state is	removed
	FMP-AO-03 Visible sectors erased	as expected
Analysis:	Expected results achieved	

4.2.15 FMP–05

Test Case FMP-05 Drive eRazer Pro SE Bundle 12/03/2009	
Case Summary:	FMP-05. Detect drive not supporting ERASE command.
Assertions:	FMP-AO-04 If an overwrite command is selected and the storage device does not support the command then the user is notified.
Tester Name:	Csr
Analysis host:	Frank
Test host:	None
Test date:	Thu Jan 21 17:23:41 2010
Test drive:	56-IDE
Log Highlights:	Message: Drive Secure Erase Not Supported
Results:	**Assertion & Expected Result** / **Actual Result** FMP-AO-04 Selected command not supported / as expected
Analysis:	Expected results achieved

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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.

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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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7. Ensure professionalism, excellence, accountability, cost-effectiveness and integrity in the management and conduct of NIJ activities and programs.

Program Areas

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

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

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