

Test Results for Forensic Media Preparation Tool

Voom Technologies

DriveWiper3 Hard Drive Sanitizing Unit

Table of Contents

| | |
|--|----|
| 1 Test Results for Forensic Media Preparation Tool | 2 |
| 2 Results Summary | 2 |
| 3 Test Case Selection | 2 |
| 3.1 Assertions for Required Features] | 2 |
| 3.2 Assertions for Optional Features | 2 |
| 3.3 Selected Test Cases | 3 |
| 4 Testing Environment | 3 |
| 4.1 Test Validation Computer | 3 |
| 4.2 Test Drives | 3 |
| 4.3 Support Software | 4 |
| 5 Test Results | 4 |
| FMP-01 | 4 |
| FMP-01-2 | 7 |
| FMP-01-4 | 10 |
| FMP-01-8 | 12 |
| FMP-02 | 14 |
| FMP-03-DCO | 16 |
| FMP-03-HPA | 18 |
| FMP-03-DCO-HPA | 20 |

1 Test Results for Forensic Media Preparation Tool

Tool Tested: DriveWiper3
Version: 1-03
Run Environments: n/a (DriveWiper3 is a hardware device)
Supplier: Voom Technologies, Inc.
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Lakeland MN 55043
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2 Results Summary

The tested tool overwrote all visible and hidden (by HPA and/or DCO) sectors completely and accurately on the test media without any anomalies. The tool behaved as designed, writing all zeros with the 1 pass option, and writing all hex 97 in the final write pass with the 4 pass sanitize option. Also as designed, test media had any HPA and/or DCO permanently removed.

3 Test Case Selection

Test cases are selected by comparing tool features to the assertions defined in [Forensic Media Preparation Test Tool Assertions and Test Plan Version 1.0](#). The list of tool assertions follows.

3.1 Assertions for Required Features]

FMP-CA-01 All visible sectors shall be overwritten with the specified benign data.

3.2 Assertions for Optional Features

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.

FMP-AO-04 If an overwrite command is selected and the storage device does not support the command then the user is notified.

Untested assertions: FMP-AO-04 due to the unavailability of a drive which does not support ERASE.

3.3 Selected Test Cases

| Supported Assertions | Cases Selected For Execution |
|----------------------|------------------------------|
| CA-01 | FMP-01, FMP-03 |
| AO-01 | FMP-03 |
| AO-02 | FMP-03 |
| AO-03 | FMP-02 |

Due to variation in test case parameters, the following test cases were used:

| | |
|----------------|-----------------------------------|
| FMP-01 | 1 Pass wipe test |
| FMP-01-2 | 2 Pass wipe test |
| FMP-01-4 | 4 Pass sanitize test |
| FMP-01-8 | 8 Pass sanitize test |
| FMP-02 | ERASE test |
| FMP-03-DCO | 1 Pass wipe with DCO test |
| FMP-03-DCO-HPA | 1 Pass wipe with HPA and DCO test |
| FMP-03-HPA | 1 Pass wipe with HPA test |

4 Testing Environment

The tests were run in the Voom Technologies lab by Christopher Biessener on DriveWiper3, SN: 3P-11-D-0307. Test verification was performed on host **voom-desktop..**

4.1 Test Validation Computer

Host **nistor2** has the following configuration:

Asus P5AD2-E Premium Motherboard

AMIBIOS v08.00.10

Intel Pentium 4 CPU 3.00Ghz stepping 04

Physical RAM: 2061376k, Swap: 3004112k

Optical drive: Sony DVD RW DRU-510A

Intel ICH6R South Bridge:

- 1 UDMA 100 Parallel ATA port
- 4 SATA ports

Silicon Image 3114R RAID controller:

- 4 SATA ports configured non-RAID

ITE 8212F IDE RAID controller:

- 2 UDMA 133 Parallel ATA ports configured non-RAID

Host nistor2 is running Ubuntu Linux 10.04, kernel version 2.6.32-45-generic.

4.2 Test Drives

All hard drives had their parameters recorded by '`hdparm -I /dev/sdX`' where X is one of a, b, c, or d. The significant identifiers are listed below.

| | | |
|----------------------|--|-------------|
| Case Identifier | FMP-01 | |
| | <p>Totals for all sectors summary format: <count> <hex value> <(actual character if printable)> ...</p> <pre> 78165360 00 78165360 20 () 156330720 2F (/) 562039006 30 (0) 173655541 31 (1) 159795071 32 (2) 142937806 33 (3) 139537071 34 (4) 123784793 35 (5) 114722663 36 (6) 107830323 37 (7) 98277183 38 (8) 97058463 39 (9) 37988364960 56 (V) </pre> <p>Totals for non-ASCII sectors summary format: <count> <hex value> <(actual character if printable)> ...</p> <p>40020664320 bytes, 78165360 sectors, 14 distinct values seen 78165360 sectors have printable text</p> | |
| Highlights | <p>dest1: Totals for all sectors summary format: <count> <hex value> <(actual character if printable)> ...</p> <pre>40020664320 00</pre> <p>Totals for non-ASCII sectors summary format: <count> <hex value> <(actual character if printable)> ...</p> <pre>40020664320 00</pre> <p>40020664320 bytes, 78165360 sectors, 1 distinct values seen No sectors have printable text</p> | |
| Results by Assertion | FMP-CA-01 Visible sectors overwritten | as expected |
| Analysis | The expected results were achieved. | |

| | |
|-----------------|--|
| Case Identifier | FMP-01-2 |
| | <p>Totals for all sectors summary format: <count> <hex value> <(actual character if printable)> ...</p> <pre> 488397168 00 488397168 20 () 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) 237361023648 57 (W) </pre> <p>Totals for non-ASCII sectors summary format: <count> <hex value> <(actual character if printable)> ...</p> <p>250059350016 bytes, 488397168 sectors, 14 distinct values seen 488397168 sectors have printable text</p> <p>dest3: Sector 0 is first sector with printable text ===== Start text ===== 00000/000/01 000000000000XX XX XX XX XX XX XX XX XX XX ===== End text Sector 0 ===== 9 <new line> characters inserted for readability</p> <p>Totals for all sectors summary format: <count> <hex value> <(actual character if printable)> ...</p> <pre> 488397168 00 488397168 20 () 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) 237361023648 58 (X) </pre> <p>Totals for non-ASCII sectors summary format: <count> <hex value> <(actual character if printable)> ...</p> <p>250059350016 bytes, 488397168 sectors, 14 distinct values seen 488397168 sectors have printable text</p> |
| Highlights | <p>dest1: Totals for all sectors summary format: <count> <hex value> <(actual character if printable)> ... 250059350016 FF</p> |

| | | |
|----------------------|---|-------------|
| Case Identifier | FMP-01-2 | |
| | <p>Totals for non-ASCII sectors summary format: <count> <hex value> <(actual character if printable)> ... 250059350016 FF</p> <p>250059350016 bytes, 488397168 sectors, 1 distinct values seen No sectors have printable text</p> <p>dest2: Totals for all sectors summary format: <count> <hex value> <(actual character if printable)> ... 250059350016 FF</p> <p>Totals for non-ASCII sectors summary format: <count> <hex value> <(actual character if printable)> ... 250059350016 FF</p> <p>250059350016 bytes, 488397168 sectors, 1 distinct values seen No sectors have printable text</p> <p>dest3: Totals for all sectors summary format: <count> <hex value> <(actual character if printable)> ... 250059350016 FF</p> <p>Totals for non-ASCII sectors summary format: <count> <hex value> <(actual character if printable)> ... 250059350016 FF</p> <p>250059350016 bytes, 488397168 sectors, 1 distinct values seen No sectors have printable text</p> | |
| Results by Assertion | FMP-CA-01 Visible sectors overwritten | as expected |
| Analysis | The expected results were achieved. | |

| | | |
|----------------------|---|-------------|
| Case Identifier | FMP-01-4 | |
| | <p>Totals for all sectors summary format: <count> <hex value> <(actual character if printable)> ... 488397168 00 488397168 20 () 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) 237361023648 57 (W)</p> <p>Totals for non-ASCII sectors summary format: <count> <hex value> <(actual character if printable)> ...</p> <p>250059350016 bytes, 488397168 sectors, 14 distinct values seen 488397168 sectors have printable text</p> | |
| Highlights | <p>dest1: Totals for all sectors summary format: <count> <hex value> <(actual character if printable)> ... 250059350016 97 Totals for non-ASCII sectors summary format: <count> <hex value> <(actual character if printable)> ... 250059350016 97</p> <p>250059350016 bytes, 488397168 sectors, 1 distinct values seen No sectors have printable text</p> <p>dest2: Totals for all sectors summary format: <count> <hex value> <(actual character if printable)> ... 250059350016 97 Totals for non-ASCII sectors summary format: <count> <hex value> <(actual character if printable)> ... 250059350016 97</p> <p>250059350016 bytes, 488397168 sectors, 1 distinct values seen No sectors have printable text</p> | |
| Results by Assertion | FMP-CA-01 Visible sectors overwritten | as expected |
| Analysis | The expected results were achieved. | |

| | | |
|----------------------|---|-------------|
| Case Identifier | FMP-01-8 | |
| | <p>Totals for all sectors summary format: <count> <hex value> <(actual character if printable)> ... 488397168 00 488397168 20 () 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) 237361023648 57 (W)</p> <p>Totals for non-ASCII sectors summary format: <count> <hex value> <(actual character if printable)> ...</p> <p>250059350016 bytes, 488397168 sectors, 14 distinct values seen 488397168 sectors have printable text</p> | |
| Highlights | <p>dest1: Totals for all sectors summary format: <count> <hex value> <(actual character if printable)> ... 250059350016 DC Totals for non-ASCII sectors summary format: <count> <hex value> <(actual character if printable)> ... 250059350016 DC</p> <p>250059350016 bytes, 488397168 sectors, 1 distinct values seen No sectors have printable text</p> <p>dest2: Totals for all sectors summary format: <count> <hex value> <(actual character if printable)> ... 250059350016 DC Totals for non-ASCII sectors summary format: <count> <hex value> <(actual character if printable)> ... 250059350016 DC</p> <p>250059350016 bytes, 488397168 sectors, 1 distinct values seen No sectors have printable text</p> | |
| Results by Assertion | FMP-CA-01 Visible sectors overwritten | as expected |
| Analysis | The expected results were achieved. | |

| | | |
|-----------------|---|-------------|
| Case Identifier | FMP-02 | |
| | FMP-AO-03 Visible sectors overwritten using ERASE | as expected |
| Analysis | The expected results were achieved. | |

| | | |
|-----------------|--------------------------------------|-------------|
| Case Identifier | FMP-03-DCO | |
| Assertion | FMP-AO-01 Hidden sectors overwritten | as expected |
| | FMP-AO-01 Hidden area final state is | removed |
| Analysis | The expected results were achieved. | |

| | | |
|-----------------|--------------------------------------|-------------|
| Case Identifier | FMP-03-HPA | |
| Assertion | FMP-AO-01 Hidden sectors overwritten | as expected |
| | FMP-AO-01 Hidden area final state is | removed |
| Analysis | The expected results were achieved. | |

| | | |
|----------------------|---------------------------------------|-------------|
| Case Identifier | FMP-03-DCO-HPA | |
| Results by Assertion | FMP-CA-01 Visible sectors overwritten | as expected |
| | FMP-AO-01 Hidden sectors overwritten | as expected |
| | FMP-AO-01 Hidden area final state is | removed |
| Analysis | The expected results were achieved. | |