University of South Wales
Prifysgol De Cymru

ADISA
ASSET DISPOSAL & INFORMATION SECURITY ALLIANCE

Products Claims Testing
Claims Test ADPC0025
BLANCCO TECHNOLOGY GROUP

Author: Professor Andrew Blyth,
University of South Wales

Revision 1.2
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Distribution: Confidential

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Whilst we make every endeavour to ensure the accuracy of the information provided here and that the recommendations are made to the best of our ability they may be subject to inaccuracies or change.

REVISION HISTORY

24/10/2016	Revision 1.0 issued to Steve Mellings
25/10/2016	Revision 1.1 issued to Jonathan Brew
07/03/2017	Revision 1.2 issued to Jonathan Brew
09/03/2017	Revision 1.3 issued to Jonathan Brew

ADISA ASSET DISPOSAL & INFORMATION SECURITY ALLIANCE

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1.0 Executive Summary

This is the final report detailing the findings in relation to the execution of the ADISA Testing Methodology on Claims Test ADPC0025 submitted by Blancco in June 2016. The claims test was carried out in accordance with ADISA Claims Testing (ACT) v1.0 and supporting document ADISA Testing Methodology v1.0, both of which are available from ADISA.

The claim made for the drive was:

> "*Blancco Technology Group's software, Blancco 5, when used in accordance with BLANCCO 5 User Manual for version 5.10.0, will remove all available data on the SSD samples within this test to protect from a forensic attack equivalent up to and including test level 2 of the ADISA threat matrix. - Claim Number ADPC0025."*

Two Solid State Drives were submitted as part of this test and these are listed below:

Hard Drive/Model	***Test Level***	***Test Level***
HP ProLiant SSD/MO0200FCTRN – 200GB	1	2
HP ProLiant SSD/ EO0400FBRWA – 400GB	1	2

Table 1 – Devices Tested

After testing it is confirmed that the Blanco claim is true for the devices tested up to Test Level 2 results. Those devices are:

- ProLiant SSD/MO0200FCTRN
- ProLiant SSD/ EO0400FBRWA

After testing it is confirmed Blancco 5, when used in accordance with the Blancco 5 User Manual, passed the test for all devices tested up to Test Level 2 results. The algorithm that was used by Blancco Version 5 to erase data on the SSD's was the Blancco SSD Erasure Method.

2.0 Test Level 1 Testing.

2.1 Simple Methodology.

This test phase is designed to evaluate the claim made by recreating an attack by a threat adversary utilising standard COTS forensic tools and techniques. (e.g. Encase and FTK). For each device the following methodology is performed.

1. Control data was placed on the device via writing a known string repeatedly to the SSD.
    a. The know string was "ISRG"
2. The device was then forensically imaged using Encase and FTK to create a validated good base-line for comparison.
3. The device was then erased using Blancco Version 5 software with the Blancco SSD Software Erasure Algorithm in accordance with the manufactures instructions.
4. The device was then imaged and analysed using Encase and FTK and the resulting forensic imaged was then compared and contrasted with the data captured in stage 2.

2.2 Test Results.

Test Level 1 Summary Results

Test Level 1 replicated an attack on these device being made by an aggressor with capabilities outlined below.

Risk Level	Threat Actor and Compromise Methods	Test Level
1 (Very Low)	Casual or opportunistic threat actor only able to mount high-level non-invasive and non-destructive software attacks utilising freeware, OS tools and COTS products.	1
2 (Low)	Commercial data recovery organisation able to mount non-invasive and non-destructive software attacks and hardware attacks.	1

The Results of Test Level 1.

Hard Drive/Model	***Result***
HP ProLiant SSD/MO0200FCTRN – 200GB	PASS
HP ProLiant SSD/ EO0400FBRWA – 400GB	PASS

Pass means that Blancco 5.10 can, using Blancco SSD Sanitization/Erasure Method and by following instructions within Blancco 5.10 User Guide v 1.0 mitigate the threat posed by the Threat Actors holding the capabilities outlined by Test Level 1 on the tested devices and the claim made can be confirmed.

3.0 Test Level 2 Testing

3.1 Simple Methodology.

This test phase is designed to evaluate the claim made by recreating an attack by a threat adversary utilising standard intrusive/destructive testing tools designed to read data directly off a chip.

During this phase structured data was written to the drive, which was then forensically imaged in accordance with legal guidelines. Each drive then has Blancco Version 5 software with the Blancco SSD Software Erasure Algorithm executed on the drive as defined in the user manual.

Upon completion of the sanitisation job each drive was connected to a forensic analysis workstation and in accordance with the ADISA Threat Matrix, forensic analysis techniques where applied to recover data from the hard drive.

Then both the controller chip and NAND memory storage chips were removed and placed into chip reading devices. Forensically sound images of the controller chip and NAND memory storage chips were then created and analysed.

The two forensic images were then compared and contrasted to ensure that all structured data had been removed. For this test there is no tolerance for remnant structured data and the result is a straight Pass or Fail.

3.2 Test Results.

Test Level 2 Summary Results

Test Level 2 replicated an attack on these devices being made by an aggressor with capabilities outlined below.

Risk Level	Threat Actor and Compromise Methods	Test Level
3 (Medium)	Commercial computer forensics organisation able to mount both non-invasive/non-destructive and invasive/non-destructive software and hardware attack, utilising COTS products.	2
4 (High)	Commercial data recovery and computer forensics organisation able to mount both non-invasive/non-destructive and invasive/ non-destructive software and hardware attack, utilising both COTS and bespoke utilities.	2

The Results of Test Level 2.

Hard Drive/Model	***Result***
HP ProLiant SSD/MO0200FCTRN – 200GB	PASS
HP ProLiant SSD/ EO0400FBRWA – 400GB	PASS

Pass means that Blancco 5.10 can, using Blancco SSD Sanitization/Erasure Method and by following instructions within Blancco 5.10 User Guide v 1.0 mitigate the threat posed by the Threat Actors holding the capabilities outlined by Test Level 2 on the tested devices and the claim made can be confirmed.

4.0 Summary and Conclusions.

Claims Test Result: **Pass on all devices tested against the test levels submitted.**

Claims Test Carried Out by: Professor Andrew Blyth, PhD.

Test Facility: University of South Wales

Signature:

Date: 07.03.2017

Appendix A Claims Test Application Form (Copy)

ASSET DISPOSAL & INFORMATION SECURITY ALLIANCE

Claims Testing Application Form

Form Number ADPC00025

Section 1 – Applicant Information

Company Name: Blancco Technology Group
Address: Länsikatu 15, 80110, Joensuu, Finland

General Contact
Name: Jonathan Brew
Phone:
Mobile: +358 44 7388002
E-Mail: jonathan.brew@blanccotechgroup.com

Section 2 – Applicant Software Information

Manufacturer Blancco
Version of software 5.10

Background (Explanation of the company and software)

Blancco Technology Group is a leading, global provider of mobile device diagnostics and secure data erasure solutions. We help our clients' customers test, diagnose, repair and repurpose IT devices with the most proven and certified software. The company is headquartered in Alpharetta, GA, United States, with a distributed workforce and customer base across the globe. Blancco, a division of Blancco Technology Group, is the global de facto standard in certified data erasure. We provide thousands of organizations with an absolute line of defense against costly security breaches, as well as verification of regulatory compliance through a 100% tamper-proof audit trail.

Blancco 5 is an erasure solution for desktops, laptops, servers and storage environments that provides total peace of mind with fully comprehensive post-erasure reports. It is a flexible yet robust solution with the very latest hardware support and cutting-edge, patented SSD erasure capabilities. The feature rich software can be controlled locally or remotely, offers high-speed erasure of high volumes of drives simultaneously, offers RAID dismantling and direct access to the underlying physical drives as well as automated detection and unlocking of freeze locked drives.

Technical / physical architecture of claims test applicant software.

The software performs a series of steps to enable the secure repurposing of SSDs. Depending on the capability of the drive being erased, the software will apply multiple different techniques, accessing the best available erasure process for a given device and determining the success of said process based on the visible results and security enhanced commands. Techniques include writing data to the SSD, totalling the full capacity of the device; partial verification of successful actions; drive issued sanitization commands and a full verification of the entire logical surface of the device.

Best practice usage guide for usage of software being tested. (Please enclose any manuals)

Manual enclosed detailing full operational instructions.

Host Information for claims test applicant software to run on. To be shipped by test claimant.

Minimum System Requirements
* x86 architecture machine
* 2GB RAM
* CD-drive or a CD-compatible drive for CD-booting
* USB-port for exporting / saving reports locally and/or USB-booting
* SVGA display and VESA compatible video card for graphical user interface
* SAS storage controller (for erasing SAS SSDs)

Section 3 – Test Hardware Information

Device 1

Solid State Storage Device chip set of device.

Manufacturer:	Hewlett Packard	Controller:	
Model:	ProLiant SSD/MO0200FCTRN	NAND Chipset	
Capacity:	200 GB	Drive serial no.	40338572

Device 2

Solid State Storage Device chip set of device.

Manufacturer:	Hewlett Packard	Controller:	
Model:	ProLiant SSD/ EO0400FBRWA	NAND Chipset	
Capacity:	400 GB	Drive serial no.	40032672

ADISA Threat Matrix

Risk Level	Threat Actor and Compromise Methods	Test Level
1 (Very Low)	Casual or opportunistic threat actor only able to mount high-level non-invasive and non-destructive software attacks utilising freeware, OS tools and COTS products.	1
2 (Low)	Commercial data recovery organisation able to mount non-invasive and non-destructive software attacks and hardware attacks.	1
3 (Medium)	Commercial computer forensics organisation able to mount both non-invasive/non-destructive and invasive/ non-destructive software and hardware attack, utilising COTS products.	2
4 (High)	Commercial data recovery and computer forensics organisation able to mount both non-invasive/non-destructive and invasive/ non-destructive software and hardware attack, utilising both COTS and bespoke utilities.	2
5 (Very High)	Government-sponsored organisations or an organisation with unlimited resources and unlimited time capable of using advanced techniques to mount all types of software and hardware attacks to recover sanitised data.	3

Section 4 – The Claim

Blancco Technology Group's software, Blancco 5, when used in accordance with BLANCCO 5 User Manual for version 5.10.0, will remove all available data on the SSD samples within this test to protect from a forensic attack equivalent up to and including test level 2 of the ADISA threat matrix.

Claim Technical Contact at applicant.

Name: Blancco Support
Phone: _____
Mobile: _____
E-Mail: support@blancco.com

Acceptance

I, Jonathan Brew of Blancco Technology Group, confirm that the information outlined in this document is an accurate and true reflection of the claims made by our product wishing to undergo the ADISA testing method.

Signed on behalf of Blancco Technology Group
SIGNED:
NAME: Jonathan Brew
TITLE: Research Manager
DATE: 27/05/2016

Claim Accepted by:

Signed on behalf of University of South Wales
SIGNED:
NAME: Andrew Blyth
TITLE: Professor
DATE:

Signed on behalf of ADISA
SIGNED:
NAME: Steve Mellings
TITLE: Director
DATE: