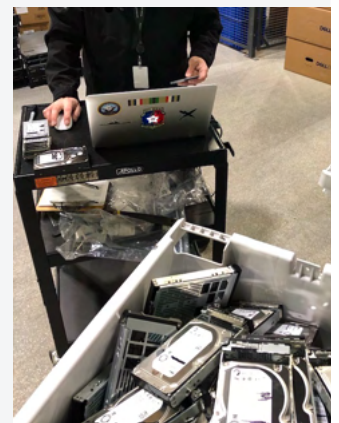




Certified Data Destruction Services



- Safely and securely claim the residual value of your organizations retired IT assets.
- Sanitize, degauss and/or shred; 100% secure, compliant and absolute. Service at your premise!
- Certificates of Deconstruction issued by unique ID; verifiable proof your organization is audit-ready!



**Responsible™
Recycling**



WHAT PROJECT CAN WE HELP YOU COMPLETE?

7850 NE Nicholas Ct., Suite A • Hillsboro, OR 97124
800.705.2619 • sphaera.net • info@sphaera.net

Introduction and Background

Sphaera, LLC., based in Hillsboro, Oregon, is an IT Asset and Data Center Infrastructure Lifecycle Management company with a direct focus on data sanitization and destruction, asset recovery, logistics and install/refresh/de-install services. We have an outstanding track record of success with projects ranging in size from a few servers up to entire data center decommissions, conducted all over the globe. More info at: sphaera.net



Sanitization vs. Destruction

Sanitize when:

- Hardware will be returned to lessor at end of lease
- Hardware has residual value and can be sold to offset replacement cost
- Hardware remains relevant and in good condition; redeploy extending return on investment

Destroy when:

- Hardware is obsolete; no further use or value
- Contains extremely sensitive or classified information
- Mandated by corporate/company/agency rule/policy/law



Summary Sanitization Operational Service Description

- 1 Sphaera arrives at customer location with mobile sanitization lab; appliances and overwrite software utilities best suited to physical and communication architecture.
- 2 Inventory (barcode scan) and document all items presented for sanitization.
- 3 Customer determines desired overwrite scrutiny; primary service includes NIST SP 800-88 Rev. 1 single-pass overwrite (all 0s), however, several other options are available, including the popular U.S. DoD 5220.22-M(E), HMG IA Std. 5(E), and CSEC ITSG-06 three-pass standards.
- 4 Loose drives are loaded into compatible chassis infrastructure designed for executing bulk sanitization jobs; storage array disk bays are directly connected to our sanitization appliance where overwrite can be launched against all drives on the connected bus.
- 5 When sanitization overwrite is complete, verification is conducted to ensure all sectors and hidden areas have been overwritten, provides a defects log list and list bad sectors that could not be overwritten.
- 6 After passing verification, a certificate of destruction is created that includes time/date, make/model, serial, description (i.e., magnetic, flash memory, hybrid, etc.), media source (system of origin), sanitization utility used (including version), verification method (i.e., full, quick sampling, etc.), name/title/signature of Northbay Networks technician.
- 7 Networking equipment, mobile devices, etc. are scrubbed of configuration data and factory defaulted; any physical asset tags or owner identification labeling is removed.



Summary Destruction Operational Service Description

- 1 Sphaera arrives at customer location with mobile destruction truck equipped with degausser and/or high capacity shredders specifically set up to demagnetize and then shred HDDs into 30mm average particles and SSDs, mobile devices and flash-memory based media in to 10mm particle sizes.
- 2 Drives are pulled (as needed), counted and documented by unique serial number and attributes (such as make, model and capacity - if required).
- 3 Individual items are degaussed (HDDs only – optional) inside your facility then transported out to the destruction truck on premise
- 4 Individual items are scanned again as they are deposited into the shredder. Closed Circuit Video cameras record the scan and drop, as well as the item being shredded. Additional cameras record all areas within the truck simultaneously.
- 5 Electronic CODs are provided to customer within 24 hours. Customers are welcome to monitor the entire evolution and take photos or video if they choose.



Data Sanitization and Destruction Process and Methodology

Sphaera adheres to the **National Institute of Standards and Technology (NIST) Special Publication 800-88, Revision 1, *Guidelines for Media Sanitization*** as the primary framework for our service offering. NIST developed the guideline in accordance with its statutory responsibilities under the Federal Information Security Management Act of 2002 (FISMA), 44 U.S.C. § 3541 et seq., Public Law 107-347. NIST is responsible for developing information security standards and guidelines for use by the private industry as well as the public sector, including minimum requirements for Federal information systems, but does not apply to national security systems.

While NIST SP 800-88 Rev. 1 is our default, we can provide services IAW most other recognized media sanitization and data remanence standards and guidelines as requested, including but not limited to:

- US Air Force System Security Instruction 5020
- US Navy Staff Office Publication P-5329-26
- US National Computer Security Center TG-025
- Great Britain HMG Infosec Standard #5
- Australian Defense Signals Directorate ACSI-33
- Canadian RCMP TSSIT OPS-II Standard Wipe
- New Zealand Government Communications Security Bureau NZSIT 402
- US Dept. of Defense 5220.22-M
- US Army AR380-19
- NSA/CSS Policy Manual 9-12
- German VSITR
- CIS GOST P50739-95
- CSEC ITSG-06



Specific Data Sanitization And Destruction Process And Methodology

Magnetic Media

Floppies, magnetic disks (flex or fixed), reel/cassette magnetic tape

Sanitize N/A, recycle raw materials

Destroy Degauss and/or shred

Hard Disk Drives—IDE, PATA, SATA, eSATA, SCSI, SAS, Fibre Channel, UAS and SCSI Express

Sanitize Writeable sectors are sanitized by overwrite process via certified utility (XErase, Blancco, WipeDrive). Overwrite is verified upon completion and once passed, we then issue a unique certificate of destruction that includes make, model, serial and system of origin.

Destroy Degauss and/or shred each disk into 30mm particles thoroughly and completely destroying the platters. Unique certificate of destruction issued by device ID (make, model, serial, system of origin). Shredding is video recorded.

Flash Memory-based Media

Solid State Disk Drives, External attached (USB, Firewire), NVM Express, Thumb Drives, Pen Drives, SD, SDHC, MMC, CF, MicroSD, MemoryStick, Embedded Flash Memory on motherboards and devices, etc.

Sanitize Writeable sectors are sanitized by overwrite process via ADISA-approved utility (XErase, BCwipe, Blancco). Upon overwrite success verification, unique certificate of destruction that includes serial and system of origin is issued.

Destroy Destroy by pinning (piercing every chip) and/or shredding to 10mm particle standard.

RAM & ROM-based Storage Devices

DRAM, Electronically Alterable PROM (EAPROM), Electronically Erasable PROM (EEPROM)

Sanitize Purge existing configuration data and execute full restoral to factory defaults per manufacturer instructions. Remove any/all physical identification or asset tracking.

Destroy Destroy by pinning (piercing every chip) and/or shredding to 10mm particle standard.

Networking Devices

Routers, Switches, Load Balancers, Firewalls, Optimization & Security Appliances

Sanitize Power down device, remove power source, and battery (if battery backed) or remove DRAM from device. Perform chip purge per manufacturer data sheets (EAPROM). Overwrite with manufacturer provided default configuration/reset (EEPROM).

Destroy PCB / motherboard removed and shredded to 10mm particle standard; remaining hull material recycled. All magnetic or flash memory storage elements removed and sanitized or destroyed IAW appropriate classification.

Mobile Devices

Apple iOS, Android OS, Blackberry OS, Windows Phone, etc., mobility devices

Sanitize Execute full sanitize option within settings; reset to factory defaults IF device accessible; by EIN or S/N through manufacturer support channels for locked no credential units

Destroy NiCad batteries removed then shredded to 10mm particle standard; any removable storage (memory cards, SIMs) to be sanitized and/or destroyed IAW appropriate classification.

Office Peripheral and Internet of Things (IoT) Devices

Copiers, printers, multifunction machines, firestick, AppleTV, etc.

Sanitize Execute full sanitize option within settings; reset to factory defaults. HDD or SSD onboard storage processed IAW with appropriate classification.

Destroy Shredded to 30mm particle standard or crushed via hydraulic press as form factor dictates; HDD or SSD onboard storage processed IAW with appropriate classification.

Optical Media

CD, DVD, BluRay Disc

Sanitize N/A, recycle raw materials

Destroy Cross cut shredding



Standards Compliance



Regulatory Compliance



Federal Trade Commission
Fair and Accurate Credit Transaction Act

NERC









Example Certificate of Erasure

CERTIFICATE OF ERASURE - NIST SP 800-88, Revision 1 Compliant

*** OFFICIAL RECORD - DO NOT DISCARD ***

CUSTOMER - LOCATION - 01/12/2018
DXGHM3VR-GUHH8C-BQNN52-5B5FF6

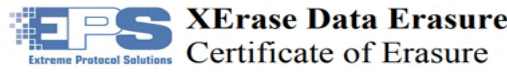





Date	Time	Document ID#
01/14/2018	05:52:20	DXGHM3VR-GUHH8C-BQNN52-5B5FF6

Client	Uber
Location	Digital Realty Loudoun Plaza Building X, Suite 101 Ashburn, Virginia, USA

Method	NIST 800-88, Revision 1 Clear / Purge	Write 0x00	SpotVerify 1000
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Erasure	Summary			
	CAPACITY	PASSED	FAILED	OTHER
600 GB	6786	10	0	6796
1 TB	201	1	0	202
Unknown	0	2	0	2
Totals	6987	13	0	7000



DRIVE NOTES

2 Unwritable Block(s)

3 Could not write PreSeed data

4 Offline during Prep

5 Opcode Validation 2 - Write Failed

6 Block Read failed

7 04/44/00 errors are unrecoverable

8 Physically destroyed

DRIVE	DATE	TIME	VENDOR	MODEL	SERIALNUM	CAPACITY	RPM	HOURS	G LIST	ERASURE_METHOD	STATUS	NOTES
1	01/10/2018	12:05:12	HGST	HUC156060CSS200	DXGHM3VR	600.13 GB	15k	17	0->0	NIST 800-88 rev1 Clear	PASSED	
2	01/10/2018	12:05:12	HGST	HUC156060CSS200	DXGHR7R	600.13 GB	15k	41	0->0	NIST 800-88 rev1 Clear	PASSED	
3	01/10/2018	12:05:12	HGST	HUC156060CSS200	DXGHTZ7R	600.13 GB	15k	18	0->0	NIST 800-88 rev1 Clear	PASSED	
4	01/10/2018	16:23:04	HGST	HUC156060CSS200	DXGHU17R	600.13 GB	15k	7037	0->0	NIST 800-88 rev1 Clear	PASSED	
5	01/10/2018	12:05:12	HGST	HUC156060CSS200	DXGHUPNR	600.13 GB	15k	23	0->0	NIST 800-88 rev1 Clear	PASSED	
6	01/10/2018	16:23:04	HGST	HUC156060CSS200	DXGHUR5R	600.13 GB	15k	21	0->0	NIST 800-88 rev1 Clear	PASSED	
7	01/10/2018	19:33:33	HGST	HUC156060CSS200	DXGHV7MR	600.13 GB	15k	6747	0->0	NIST 800-88 rev1 Clear	PASSED	
8	01/10/2018	18:00:26	HGST	HUC156060CSS200	DXGHVR6R	600.13 GB	15k	6747	0->0	NIST 800-88 rev1 Clear	PASSED	
9	01/10/2018	16:23:04	HGST	HUC156060CSS200	DXGHVVUR	600.13 GB	15k	18	0->0	NIST 800-88 rev1 Clear	PASSED	
10	01/10/2018	18:00:27	HGST	HUC156060CSS200	DXGHW57R	600.13 GB	15k	6735	0->0	NIST 800-88 rev1 Clear	PASSED	
11	01/10/2018	14:39:26	HGST	HUC156060CSS200	DXGHWPLR	600.13 GB	15k	96	0->0	NIST 800-88 rev1 Clear	PASSED	
12	01/10/2018	16:23:04	HGST	HUC156060CSS200	DXGHWVNR	600.13 GB	15k	96	0->0	NIST 800-88 rev1 Clear	PASSED	
13	01/10/2018	16:23:03	HGST	HUC156060CSS200	DXGHXWJR	600.13 GB	15k	6779	0->0	NIST 800-88 rev1 Clear	PASSED	
14	01/10/2018	18:00:28	HGST	HUC156060CSS200	DXGHXMJR	600.13 GB	15k	6747	0->0	NIST 800-88 rev1 Clear	PASSED	
15	01/10/2018	16:23:03	HGST	HUC156060CSS200	DXGHXTHR	600.13 GB	15k	7037	0->0	NIST 800-88 rev1 Clear	PASSED	
16	01/10/2018	19:33:33	HGST	HUC156060CSS200	DXGHXUER	600.13 GB	15k	6747	0->0	NIST 800-88 rev1 Clear	PASSED	
17	01/10/2018	18:00:27	HGST	HUC156060CSS200	DXGHXZJR	600.13 GB	15k	6735	0->0	NIST 800-88 rev1 Clear	PASSED	
18	01/10/2018	16:23:05	HGST	HUC156060CSS200	DXGHY00R	600.13 GB	15k	6735	0->0	NIST 800-88 rev1 Clear	PASSED	
19	01/10/2018	16:23:05	HGST	HUC156060CSS200	DXGI01RR	600.13 GB	15k	6734	0->0	NIST 800-88 rev1 Clear	PASSED	
20	01/10/2018	16:23:03	HGST	HUC156060CSS200	DXGKAAMR	600.13 GB	15k	1529	0->0	NIST 800-88 rev1 Clear	PASSED	
21	01/10/2018	18:00:27	HGST	HUC156060CSS200	DXGKR6YR	600.13 GB	15k	13	0->0	NIST 800-88 rev1 Clear	PASSED	
22	01/10/2018	14:39:26	HGST	HUC156060CSS200	DXGM7WVY	600.13 GB	15k	12	0->0	NIST 800-88 rev1 Clear	PASSED	
23	01/10/2018	14:39:26	HGST	HUC156060CSS200	DXGNUPER	600.13 GB	15k	11	0->0	NIST 800-88 rev1 Clear	PASSED	
24	01/10/2018	18:00:27	HGST	HUC156060CSS200	DXGP7X1R	600.13 GB	15k	15	0->0	NIST 800-88 rev1 Clear	PASSED	
25	01/10/2018	16:23:05	HGST	HUC156060CSS200	DXGP8M8R	600.13 GB	15k	26	0->0	NIST 800-88 rev1 Clear	PASSED	
26	01/10/2018	14:39:27	HGST	HUC156060CSS200	DXGP8ZKR	600.13 GB	15k	10	0->0	NIST 800-88 rev1 Clear	PASSED	
27	01/10/2018	18:00:27	HGST	HUC156060CSS200	DXGP83AR	600.13 GB	15k	36	0->0	NIST 800-88 rev1 Clear	PASSED	
28	01/10/2018	14:39:26	HGST	HUC156060CSS200	DXGPLLXP	600.13 GB	15k	103	0->0	NIST 800-88 rev1 Clear	PASSED	
29	01/10/2018	18:00:28	HGST	HUC156060CSS200	DXGPWSSP	600.13 GB	15k	8836	0->0	NIST 800-88 rev1 Clear	PASSED	
30	01/10/2018	14:39:26	HGST	HUC156060CSS200	DXGPWXPZ	600.13 GB	15k	9200	0->0	NIST 800-88 rev1 Clear	PASSED	
31	01/10/2018	16:23:03	HGST	HUC156060CSS200	DXGPWXHP	600.13 GB	15k	949	0->0	NIST 800-88 rev1 Clear	PASSED	
32	01/10/2018	18:00:28	HGST	HUC156060CSS200	DXGPWVXP	600.13 GB	15k	9199	0->0	NIST 800-88 rev1 Clear	PASSED	
33	01/10/2018	14:39:26	HGST	HUC156060CSS200	DXGPV2P	600.13 GB	15k	9787	0->0	NIST 800-88 rev1 Clear	PASSED	
34	01/10/2018	14:39:27	HGST	HUC156060CSS200	DXGPV3P	600.13 GB	15k	9322	0->0	NIST 800-88 rev1 Clear	PASSED	
35	01/10/2018	14:39:26	HGST	HUC156060CSS200	DXGR12P	600.13 GB	15k	9787	0->0	NIST 800-88 rev1 Clear	PASSED	
36	01/10/2018	14:39:26	HGST	HUC156060CSS200	DXGRBPPW	600.13 GB	15k	102	0->0	NIST 800-88 rev1 Clear	PASSED	
37	01/10/2018	16:23:03	HGST	HUC156060CSS200	DXGRG16P	600.13 GB	15k	1439	0->0	NIST 800-88 rev1 Clear	PASSED	
38	01/10/2018	12:05:12	HGST	HUC156060CSS200	DXGRK21P	600.13 GB	15k	27	0->0	NIST 800-88 rev1 Clear	PASSED	
39	01/10/2018	16:23:04	HGST	HUC156060CSS200	DXGRN09P	600.13 GB	15k	7737	0->0	NIST 800-88 rev1 Clear	PASSED	
40	01/10/2018	12:05:13	HGST	HUC156060CSS200	DXGRN2AP	600.13 GB	15k	21	0->0	NIST 800-88 rev1 Clear	PASSED	
41	01/10/2018	14:39:27	HGST	HUC156060CSS200	DXGRP9ZP	600.13 GB	15k	9223	0->0	NIST 800-88 rev1 Clear	PASSED	
42	01/10/2018	14:39:27	HGST	HUC156060CSS200	DXGRXNRP	600.13 GB	15k	9106	0->0	NIST 800-88 rev1 Clear	PASSED	
43	01/10/2018	18:00:28	HGST	HUC156060CSS200	DXGS27VP	600.13 GB	15k	8837	0->0	NIST 800-88 rev1 Clear	PASSED	
44	01/10/2018	18:00:27	HGST	HUC156060CSS200	DXGS8L0R	600.13 GB	15k	9268	0->0	NIST 800-88 rev1 Clear	PASSED	
45	01/10/2018	14:39:27	HGST	HUC156060CSS200	DXGSAZKP	600.13 GB	15k	9223	0->0	NIST 800-88 rev1 Clear	PASSED	
46	01/10/2018	14:39:26	HGST	HUC156060CSS200	DXGSDHRR	600.13 GB	15k	9416	0->0	NIST 800-88 rev1 Clear	PASSED	
47	01/10/2018	14:39:26	HGST	HUC156060CSS200	DXGSDU5R	600.13 GB	15k	8836	0->0	NIST 800-88 rev1 Clear	PASSED	
48	01/10/2018	16:23:03	HGST	HUC156060CSS200	DXGSE63R	600.13 GB	15k	1355	0->0	NIST 800-88 rev1 Clear	PASSED	
49	01/10/2018	16:23:04	HGST	HUC156060CSS200	DXGSEW9R	600.13 GB	15k	9505	0->0	NIST 800-88 rev1 Clear	PASSED	
50	01/10/2018	18:00:28	HGST	HUC156060CSS200	DXGSG2BR	600.13 GB	15k	8837	0->0	NIST 800-88 rev1 Clear	PASSED	
51	01/10/2018	16:23:03	HGST	HUC156060CSS200	DXGSG4VR	600.13 GB	15k	1378	0->0	NIST 800-88 rev1 Clear	PASSED	
52	01/10/2018	16:23:03	HGST	HUC156060CSS200	DXGSG9ZR	600.13 GB	15k	1364	0->0	NIST 800-88 rev1 Clear	PASSED	
53	01/10/2018	18:00:27	HGST	HUC156060CSS200	DXGSIH5R	600.13 GB	15k	9227	0->0	NIST 800-88 rev1 Clear	PASSED	
54	01/10/2018	14:39:27	HGST	HUC156060CSS200	DXGSIJMR	600.13 GB	15k	8836	0->0	NIST 800-88 rev1 Clear	PASSED	
55	01/10/2018	14:39:26	HGST	HUC156060CSS200	DXGSIJNR	600.13 GB	15k	9604	0->0	NIST 800-88 rev1 Clear	PASSED	
56	01/10/2018	16:23:03	HGST	HUC156060CSS200	DXGSIJVR	600.13 GB	15k	1364	0->0	NIST 800-88 rev1 Clear	PASSED	
57	01/10/2018	14:39:26	HGST	HUC156060CSS200	DXGSIJ7R	600.13 GB	15k	9242	0->0	NIST 800-88 rev1 Clear	PASSED	
58	01/10/2018	16:23:04	HGST	HUC156060CSS200	DXGSIJPR	600.13 GB	15k	9347	0->0	NIST 800-88 rev1 Clear	PASSED	
59	01/10/2018	14:39:26	HGST	HUC156060CSS200	DXGSIJ2R	600.13 GB	15k	9292	0->0	NIST 800-88 rev1 Clear	PASSED	
60	01/10/2018	16:23:03	HGST	HUC156060CSS200	DXGSIJWR	600.13 GB	15k	831	0->0	NIST 800-88 rev1 Clear	PASSED	
61	01/10/2018	16:23:04	HGST	HUC156060CSS200	DXGSKHVR	600.13 GB	15k	9347	0->0	NIST 800-88 rev1 Clear	PASSED	
62	01/10/2018	16:23:04	HGST	HUC156060CSS200	DXGSKM7R	600.13 GB	15k	9506	0->0	NIST 800-88 rev1 Clear	PASSED	
63	01/10/2018	16:23:04	HGST	HUC156060CSS200	DXGSKPBR	600.13 GB	15k	9620	0->0	NIST 800-88 rev1 Clear	PASSED	



Example Certificate of Destruction

CERTIFICATE OF DESTRUCTION

OFFICIAL RECORD - DO NOT DISCARD

SAMPLE - LOCATION - 04/23/2019



CERTIFICATE OF DESTRUCTION

SAMPLE _____ DATE: April 23, 2019

ORGANIZATION _____

123 Anywhere St.

ADDRESS _____

Shredsville _____ Texas _____ 78744

CITY STATE ZIP CODE

METHOD OF DESTRUCTION		MEDIA TYPE FOR DESTRUCTION		LOCATION	WITNESSED BY
	Degaussing	XX	HDD/SSDs	XX	Jon Doe 555-123-1234
XX	Shredding		Backup, LTO tapes	On-Site	
	Erasure		Mobile Devices, Cell Phones	Off-Site	
			Flash media, Thumb drives HID, Proximity cards		
QTY	REMOVAL SCAN	DESTRUCTION SCAN	COMMENTS/DISCREPANCIES		
1	X3U0A033FTM9	X3U0A033FTM9			
2	X3T0A15ZFTM9	X3T0A15ZFTM9			
3	X3U0A0EGFTM9	X3U0A0EGFTM9			
4	X3U0A0MTFTM9	X3U0A0MTFTM9			
5	X3U0A0KGFTM9	X3U0A0KGFTM9			
6	X3U0A1M6FTM9	X3U0A1M6FTM9			
7	X3U0A1MFFTM9	X3U0A1MFFTM9			
8	X3U0A17SFTM9	X3U0A17SFTM9			
9	X3U0A1CYFTM9	X3U0A1CYFTM9			
10	X3U0A13QFTM9	X3U0A13QFTM9			
11	S0K1KMZD	S0K1KMZD			
12	9WE066-150	9WE066-150			
13	BSA1P7C04VEW	BSA1P7C04VEW			
14	BSA1P7C04U6G	BSA1P7C04U6G			
15	BS05P87095CY	BS05P87095CY			
16	BS05P870968V	BS05P870968V			
17	BS05P8709687	BS05P8709687			
18	BS05P8709652	BS05P8709652			
19	P4V431VA	P4V431VA			
20	3SD3K69R	3SD3K69R			
21	9XF1325Y	9XF1325Y			
22	9XF146LG	9XF146LG			
23	9XF156E4	9XF156E4			
24	9XF13WMW	9XF13WMW			
25	9XF13WS6	9XF13WS6			
26	9XF14PRR	9XF14PRR			
27	9XF13X2S	9XF13X2S			
28	9XF1590Q	9XF1590Q			
29	S0K0EGRT	S0K0EGRT			
30	P4VHWDDA	P4VHWDDA			
31	P4VHY2DA	P4VHY2DA			
32	P4VHW5AA	P4VHW5AA			
33	P4VHWD4A	P4VHWD4A			
34	X3U0A1GLFTM9	X3U0A1GLFTM9			

10/7/19 - 10:46 PM

CERTIFIED BY:

M. D. Yaskovic
Matthew D. Yaskovic, COO
Saburo, LLC.



1 of 1