

# IT ASSET RETIREMENT RE-NEWS



CASCADE ASSET MANAGEMENT'S CUSTOMER NEWSLETTER

## Quick Facts and Figures

Since Cascade opened in April, 1999, we've:

- Collected and processed over 63.5 million pounds of old electronics
- Paid more than \$10 million in rebates to customers
- Refurbished and resold, redeployed or donated over 1,058,000 computer devices
- Demanufactured and recycled over 750,000 cathode ray tubes
- Prevented more than 3 million pounds of lead from entering of landfills
- Donated more than \$350,000 worth of computer equipment to charities in partnership with our customers

## Contact Cascade

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## Solid state drives thwart secure data destruction

As technology for data storage shifts from conventional hard disk drives (HDDs) to solid state drives (SSDs), the process for removing data has changed. Recent research discovered that existing wiping methodologies for HDDs are not consistently effective on the new storage medium.

SSDs have emerged as a welcome upgrade to the traditional mechanical and magnetic-based HDDs. SSDs boot-up faster and launch applications more quickly. Because they have no moving parts, SSDs last longer, are more rugged and consume less power. SSDs are also present in USB storage devices, MP3 players, and many other common mobile devices.

The Department of Computer Science and Engineering at the University of California—San Diego recently investigated and published a research paper regarding the nature and storage processes of SSDs to determine how they manage data and what can be done to effectively wipe data from these drives. They first recognized an important distinction between these two storage media:

"Flash-based SSDs differ

from hard drives in both the technology they use to store data (flash chips vs. magnetic disks) and the algorithms they use to manage and access that data. SSDs maintain a layer of indirection between the logical block addresses that computer systems use to access data and the raw flash addresses that identify physical storage. The layer of indirection enhances SSD performance and reliability by hiding flash memory's idiosyncratic interface and managing its limited lifetime, but it can also produce copies of the data that are invisible to the user **but that a sophisticated attacker can recover** [emphasis added]."



The traditional software over-write tools used to sanitize magnetic hard drives do not effectively destroy all data from solid state drives. This is due to the data recovery algorithms inherent in SSDs which create copies of files as they are erased (like a RAID setup). The researchers were able to easily recover up to 6.5% of files on SSDs overwritten using the DoD 5220.22-M three-pass wipe.

Many manufacturers have embedded a "Secure Erase" function into their SSDs. The

thought was that this function could be enabled to effectively sanitize the drive to NIST 800-88 standards and prevent the auto-copying effect resulting from traditional HDDs wiping tools. The researchers tested this method for several SSDs and found that they were not consistently effective and could not be easily validated. When this sanitization method worked, it effectively destroyed the data, but it is impossible to be confident of this technique's efficacy.

Even degaussing of SSDs was ineffective. The alternating magnetic fields of a degausser eliminate data on hard drives by removing low level formatting and damaging the motor. Because SSDs are non-magnetic, all data remained intact after degaussing.

Many newer SSDs encrypt data by default, and so deleting the encryption key should render the data on the drive irretrievable, in theory. The researchers found that some manufacturers of SSDs do not have a methodology to properly sanitize the key store, and so, again, it is difficult to generally rely on encryption for secure data management.

Until a reliable process for effectively destroying data on SSDs is found, Cascade recommends the physical destruction (shredding) of SSDs.

## Proposed legislation limits US e-waste exports

The Responsible Electronics Recycling Act of 2011 (HR2284 and S1270) has been filed with bi-partisan support in both the House and Senate. The bill would make it illegal to send toxic e-waste to developing nations.

The bill is supported by environmental groups as well as electronic manufacturers (Dell, HP, Samsung, Apple, and Best Buy), all of which already have policies that prohibit the export of e-waste to developing nations.

This bill restricts the export of electronics containing certain toxic chemicals to developing countries. It would still allow exports of tested and working parts and products, as well as products or components under warranty, exported by the manufacturers for warranty repairs or subject to recalls.

It is still clear that the vast majority of electronics collected in the US from consumer collection events and by brokers and dealers end up in developing countries who provide cheap (but unsafe) labor to recover valuable metals, but dump unwanted toxic scrap into the environment untreated.

Cascade and other companies in the e-Stewards program have demonstrated that a viable domestic recovery process can thrive in the US. Our businesses create local jobs, ensure toxic materials are processed safely, and generate clean, valuable commodities that can be used in international trade. Cascade supports this legislation because it will close the loophole toxic dumping by unscrupulous recyclers and will build a more robust domestic recycling industry in the US.

## Green gifts

If you ever need to recognize your employees with branded clothing or gifts, or you need to promote your organization to the outside world, **I'm Organic** provides quality, sustainable products for you. A local company started in Cascade's hometown, I'm Organic shares our commitment to fairness and environmental responsibility.

We encourage you to consider them if you need give-aways for trade shows or gifts to give as rewards in your sustainability programs. They carry a wide range of unique eco-friendly gifts and their quality and service is excellent. We use them!

Visit I'm Organic on the web at [www.imorganic.com](http://www.imorganic.com)



## Conferences provide learning opportunities

**Gartner.**

### Gartner IT Financial, Procurement & Asset Management Summit.

September 14—16 \* Orlando, FL

This summit recognizes the importance and value that IT provides to organizations and is targeted toward communicating economic alignment and challenges within IT and to all IT customers. Organizations will learn how to illustrate the true value of IT through understanding how to identify cost drivers and communicating costs both within IT and out to business units and corporate executives, work with stagnant budgets, manage an increasing number of software audits, and build better procurement programs.

Cascade will participate in the "Solutions Showcase" and will provide information on our latest innovations in IT Asset Disposition.

Contact Cascade for an opportunity to receive "2 for 1" registration, saving you more than \$1,600.

### PDS Technology Conference

September 14—15 \* Milwaukee, WI

Malcom Gladwell, *New York Times* bestselling author of *The Tipping Point*, will be the featured keynote speaker at this year's Tech Conference. The conference is geared to IT executives, directors, managers, and engineers looking to stay ahead of the curve. With more than 50+ Strategy Sessions, six Featured Speakers and a vendor solutions center, it's a great way to get up to speed on best practices in IT lifecycle management.

Cascade will present a session on "IT Hardware Retirement Best Practices in Healthcare: Regulations, Risks and Rewards"

This is a no cost conference, but you need to alert Cascade or PDS if you are interested in attending.

### Healthcare Development Conference

October 26-28 \* Chicago, IL

This conference will bring together healthcare executives, investors of healthcare products, and government officials from up to 87 countries involved in developing and designing healthcare projects that are "Green" such as hospitals, clinics, medical parks and medical offices globally.

Cascade will be presenting at a session discussing, "Managing a Secure, Environmentally Responsible and Compliant IT Asset Disposal Strategy."

