Chasm Lifecycle Management:

A Single-Source Solution for Corporate Electronic Asset Disposal That Maximizes Revenues and Mitigates Liabilities

Secure ▪ Economical ▪ Efficient
Environmentally Compliant

CHASM

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Overview

Traditionally, asset disposition and recycling have been two separate activities handled by two or more separate vendors.

This cumbersome multi-step approach to electronic asset disposition results in lack of accountability for disposition of the assets, inefficiency in handling, increased administrative burden, and higher disposition costs.

Every time your old PCs pass through another set of hands, you are at risk of a security breach as hackers and pirates scan hard disk drives for sensitive files inadvertently left on your equipment.

Also, handling of the electronic gear you've disposed of through multiple parties muddies the paperwork trail. So if your PC is found in an illegal landfill, the finger of responsibility ultimately points back to you, the original owner.

In this white paper, we look at a unique one-stop solution for corporate electronic disposition, the Chasm Lifecycle Management Solution (CLMS).

The Chasm "single-source solution" solves the security and environmental problems while saving you time, money, and aggravation when getting rid of old PCs, printers, monitors, telephone systems, and other electronic gear.

A Look at the Problem

In the U.S., 2.21 million tons of electronic waste was produced in 2000, including 916,900 tons of information products.

These old, unwanted electronic assets can include desktop PCs, laptops, monitors, printers, fax machines, digital copiers, scanners, keyboards, TVs, VCRs, DVD players, PDAs, beepers, iPods, cell phones, and numerous other devices.

Disposal of obsolete and unwanted electronic assets is problematic in several areas. These include data security, environmental compliance, and cost:

Data security

The encoded data stored in obsolete electronic assets may be sensitive. Mass storage devices contain proprietary databases. PCs have thousands of documents stored on their hard drives.

Also residing on hard drives are thousands of old e-mail messages and address books, where both the content of the message and the recipient's e-mail address are confidential. Even telephone systems have private phone numbers programmed into their speed dials.

Corporations invest billions of dollars in firewalls and other computer security measures to protect sensitive data while their systems are in operation. According to Forrester Research, $13.5 billion was spent on computer security in 2003, with IT security expenditures expected to reach $20 billion in 2006.

Ironically, companies don't give a second thought to these same computer systems when they are removed and replaced with new technology – even though they contain much of the same data that made them security risks in the first place.

At the same time, the penalties for leaking data are stiffer and more public than ever before:

- The Gramm-Leach-Bliley Act (GLBA) requires banks, securities firms, mortgage brokers, and credit card companies to keep customer financial data private. The penalties for noncompliance are stiff: fines of up to $1 million and criminal penalties of up to 10 years in prison. The financial services industry's spending on GLBA compliance will reach $170 million in 2006.

- Sarbanes-Oxley (SO) has placed an additional burden on corporations to ensure accuracy in their financial reporting and statements. Estimates to achieve SO compliance range from $1.6 million to $4.4 million per company per year.

- The Health Insurance Portability and Accountability Act's Privacy Rule (HIPAA) requires healthcare providers to safeguard individuals' identifiable health information against misuse and limit the sharing of such information. According to the American Health Information Management Association, an average of 150 people view a patient's personal medical records during the course of a typical hospital stay.

  Wrongful disclosure with intent to sell information is punishable by a $250,000 fine or imprisonment of up to 10 years, or both. An AMR Research survey of 225

companies found that some $3.7 billion will be spent this year on HIPAA compliance.

Other data privacy regulations of concern when disposing of electronic assets include RFPA, dealing with protection of personal bank data; Safe Harbor Principles governing privacy concerns; and CA SB-1386 addressing the protection of personal data.

As a result, U.S corporations today spend roughly 8% to 12% of their total IT budgets on security, up from 2% to 3% five years ago.

Data privacy is a global, not just an American, concern. In Canada, the Personal Information Protection and Electronic Documents Act (PIPEDA) requires companies to protect personal information they collect about Canadian citizens, with violations carrying penalties between $10,000 and $100,000.

In Europe, member countries of the European Union and companies operating within them are required to implement strict personal information privacy safeguards. Penalties vary between nations; in the U.K., unlimited fines may be imposed on offenders convicted in the crown court.

Environmental compliance

Environmental regulations have become a growing concern as new and ever-changing legal issues affect the entire disposition process.

More than a thousand metals, plastics, and chemicals are used to make electronic products and their components. About 40% of the heavy metals in landfills come from discarded electronic equipment. The cathode ray tubes (CRTs) used in computer monitors contain several pounds of lead per tube.

When electronic products are improperly dumped in a landfill or incinerated, many of these compounds – including lead, mercury, cadmium, barium, and flame retardants – can pose a health hazard.

You need to protect your company from "dumping" activities that could damage your corporate brand -- and quickly become public relations nightmares.

Even unintended violation of newer federal laws carry hefty fines: failure to comply with the Resource Conservation and Recovery Act (RCRA) can trigger civil or criminal prosecution with fines of up to $50,000 per day per violation or imprisonment for up to two years.

Arkansas, California, Maine, Maryland, and Virginia have all passed bills controlling the disposition of electronic waste. In California, SB-20 prohibits dumping of cathode ray

tubes from PC monitors, TV sets, and other devices in landfills, because the high lead content in the glass classifies them as hazardous waste. Similar legislation regarding electronic waste disposition is pending in 26 additional states.

Overseas, there is mandatory recycling of electronics in Japan, Taiwan, and Korea. The European Union Parliament has approved the Waste from Electrical and Electronic Equipment (WEEE) Directive, making producers responsible for the management, recovery, and recycling of their electronic waste.

Cost control

Merely dumping or disposing of electronic assets may be tantamount to leaving thousands of dollars of asset value on the table. Through smart recycling and reselling, you may be able to recover significant dollars from assets you dispose of.

Depending on the market value and sales channels available to the recycler, the sale of usable equipment and recovered materials may be able to pay for some or all of the cost of asset disposition. In some instances, you may even realize a modest profit from these revenues.

What's Wrong With Conventional Solutions?

So, what asset disposition solution best meets these requirements of security, environmental compliance, and asset dollar recovery?

It used to be that you could simply donate your old PCs, telephones, printers, and other electronic assets to a local school. Or a recycler would buy them from you, take them away, then resell whatever electronics and materials could be recovered.

Most recyclers are small, local, "mom and pop" businesses, transient and lacking financial stability. If a business switches recyclers, or uses multiple recyclers, creating an accurate audit trail of electronic asset disposition becomes exponentially more difficult.

And, these smaller recyclers typically handle recycling only for your local facilities. Therefore, a company with offices in five cities is forced to use five different recyclers, one for each location.

What's more, the marginal value of obsolete electronic assets makes it cost-prohibitive to recycle the equipment in the U.S.

Some vendors solve this problem by shipping equipment overseas where the electronics can be manually disassembled by cheap labor in developing nations. Other recyclers turn to low-cost prison labor.

Both of these options can result in inefficiencies as well as dangers to human health and the environment. Security breaches are a major concern here, too.

Data can be lost due to inadvertent lapses or stolen from discarded computers. Once computer equipment is shipped outside the U.S., disposition of electronic assets can be difficult or impossible to track.

And do you really want discarded PC hard drives to be handled by convicted felons or shipped to unknown destinations overseas?

The bottom line: for most businesses, disposing of obsolete corporate electronics has become increasingly complex, troublesome, and expensive. And that's where the Chasm Lifecycle Management Solution comes in.

The Chasm solution offers four advantages most other asset management and recycling solutions do not:

- *Environmentally compliant* – disposition of your electronic assets is fully compliant with environmental regulations, with the proper documentation to prove it.

- *Economically advantageous* – our proprietary technology, methods, and business model provide significant cost savings and also enable you to maximize return on your old assets through equipment resale and material recycling.

- *Efficient* – one phone call to Chasm or its channel partner swiftly resolves the question of "What do we do with all these old PCs?" Consolidating all asset disposition resources under one roof significantly reduces your administrative burden, complexity, and costs.

- *Single-source accountability* – asset deployment, disposition, recycling, and resale are all handled by a single source accountable to you. All asset disposition activities are rigorously documented and recorded in a permanent database providing you with a comprehensive audit trail.

Printers and Fax Machines

Fig. 1. The Chasm Lifecycle Management Solution provides single-source handling of all your obsolete electronic assets.

Lifecycle Management

The solution to cost-effective, accountable asset deployment and disposition is a relatively new concept for IT equipment: **lifecycle management.**

In lifecycle management, a reliable, financially stable third-party source can manage all major events in the life of your company's electronic assets – from deployment (delivery and installation of the equipment to the desktop when new) to disposition (resale of the equipment or recycling when it has reached the end of its useful operating life).

Chasm provides single-source lifecycle management for IT equipment. In this white paper, we focus on the Chasm Lifecycle Management Solution for secure, environmentally compliant, accountable *disposition* of electronic assets.

Fig. 2. Lifecycle management manages all major events in an asset's lifetime

The Chasm Lifecycle Management Solution at a Glance

The Chasm solution for electronic asset disposition has two major components. The first is a proprietary recycling process for e-waste conversion into global commodities, which we will discuss in the next section.

The second is a corporate infrastructure uniquely positioned to meet the electronic asset disposition needs of companies ranging from small businesses to Fortune 500 corporations.

Chasm Industries has annual revenues of more than $40 million, giving the company a financial stability that most local recyclers and asset managers cannot duplicate. The company disposes of more than 120 million pounds of electronic gear a year.

You gain the assurance of knowing your electronics disposition is being managed by a company that will be in operation as long as you are, with records and documentation on your disposed assets always available.

Through an aggressive acquisitions program, Chasm is consolidating asset management firms, metal recycling firms, and electronics processing under a single corporate entity.

The result: customers can get "cradle to grave" lifecycle management of their electronic assets from a single source with one phone call.

In the Chasm process, electronic asset disposition is handled as follows:

- Chasm or its channel partner picks up PCs, printers, and other electronic equipment from the customer.

- The hardware is shipped to the nearest Chasm processing centers; Chasm has multiple processing centers located coast to coast to minimize shipping costs.

- Chasm evaluates whether the asset can be remarketed or has reached the end of its useful life.

- PCs and other electronics that can be remarketed are manually erased, cleaned, tested, and remarketed through a variety of channels.

- The non-usable equipment that has reached the end of its functional life is processed using a proprietary technology. This incineration-free processing creates recoverable raw materials from electronic waste.

- Recoverable materials are converted into high-grade chops.

- The chops are sold as commodities, which offsets the upfront cost of electronic asset recycling.

With a total electronic asset disposition solution from a single source, the Chasm Lifecycle Management Solution eliminates the need to ship materials between multiple vendors – recyclers, scrap metal dealers, and asset managers.

The Chasm solution compresses the entire electronic asset disposition supply chain to a single touch point, reducing logistics costs. You save time and money, while also ensuring an environmentally compliant disposition solution.

With a network of three nationwide processing plants and a unique channel marketing strategy using strategic partners (discussed later in this report), Chasm can provide companies of all sizes with an integrated electronic asset deployment and disposition solution for end-to-end lifecycle management of IT equipment.

As Chasm expands its operations overseas, the company's goal is to provide an integrated, single-source electronic asset lifecycle management solution worldwide – and to be the first company in the industry to perform all services in-house.

That way, multi-national corporations can have their assets managed and disposed of by one global vendor with a strong local presence.

Electronic Asset Processing

In disposing of your electronic assets, Chasm or one of its channel partners (see section on channel partners later in this report) picks up and ships the old equipment from your facility to one of our processing centers.

When your obsolete electronic assets arrive at our processing center, we inspect the equipment to determine its market value, which in turn affects how it will be processed.

As a rule of thumb, electronics that are fully functional and of recent vintage may have additional operating life. These systems or their components can be cleaned, refurbished, and resold on the secondary market.

On the other hand, electronic assets that are non-operational, antiquated, or otherwise at the end of their operating life go directly to recycling.

Data wiping

When we determine that an asset has not yet reached the end of its useful life, Chasm can resell that asset for you to recover a portion of its value.

Trained technicians manually wipe the devices clean of third-party data and software, remove asset tags and other identification labels, boot up the device, and test to ensure functionality.

Disk drives and memories are erased, using Department of Defense disk erasure standard DoD 5220.22-M, to prevent security breaches. Memories of all other electronic devices, from phones to answering machines, are also wiped clean.

A "3X" data wipe is performed on the hard drive of every CPU, meaning we overwrite it at least three times. A Quality Assurance (QA) inspector manually checks each drive to ensure that no data remains.

Channels for reselling your old equipment include eBay and other online auction sites and portals, equipment brokers, resellers, and distributors. On the Web, Chasm sells used hardware through third-party sites as well as company-owned e-commerce Web sites.

Next, whatever remains – electronic gear that has reached the end of its useful life and cannot be refurbished or resold – is processed as electronic waste or "e-waste."

E-waste processing

When electronic waste is incinerated, it gives off emissions which can create toxic effects for the local environment.

Chasm's e-waste processing centers use a proprietary incineration-free process that drastically reduces emissions for material recovery.

Here's how the process works:

1. Our automated process eliminates the cost of manual disassembly. Electronics are placed on a conveyor and moved into the system.

2. Once the equipment is on the conveyor, it is not handled again until the processed electronics emerge as separate materials.

3. The electronics are initially sized reduced by our pre-shredder.

4. Next, the material passes through a series of granulators and screens that separate the chops by sizes.

5. Finally, the chops are introduced into our material separation process, which within minutes, produces clean separated materials streams from various output stations.

No incineration occurs. Instead, the recovered material goes directly to metal mills and manufacturing industries.

The system is fully automated. Large-scale processing plants enable Chasm to quickly scale up to meet any volume requirement.

The process recovers from the scrap equipment more than a dozen separated commodities including copper, aluminum, steel, leaded glass, and polymers.
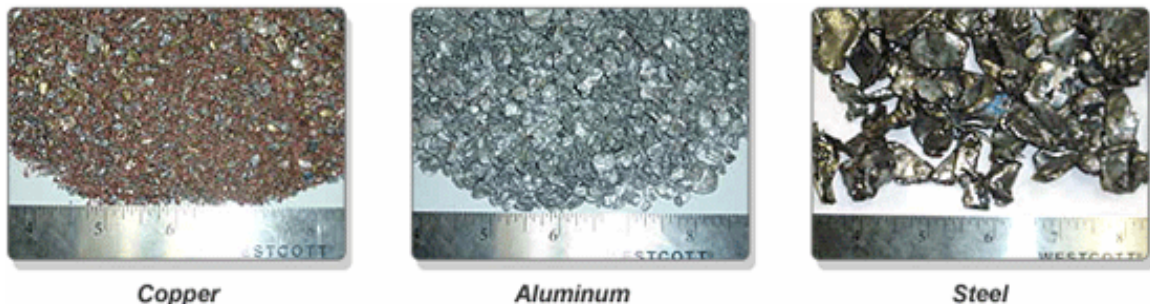

Copper   Aluminum   Steel

Fig. 3. The Chasm recycling process breaks down disposed of electronic assets into more than a dozen material streams that can be recovered and resold on the commodities market.

Specifically, the Chasm incineration-free process recovers the following product streams:

- *Glass sands* – CRT glass contains 2 to 4 pounds of lead per monitor. The Chasm process converts the leaded CRT glass into a sinter grade form which is the best grade by lead smelter standards. This is the only form that can be introduced directly into the furnace of the smelting process as a fluxing agent. The Chasm recycling technology eliminates additional processing by the smelter, reducing costs.

- *Fiberglass* – Fiberglass is recovered, characterized, and manifested to an appropriate hazardous waste landfill.

- *Polymers* – The outer shells of most PCs and many other electronics are made from a variety of plastics. The recovered plastic can be sold to injection molders.

- *Copper, aluminum, and ferrous metals* – e-waste is processed into "chops" that are exempt as hazardous waste under the federal and state scrap metal exemption in Title 22 CFR. The streams that are generated match the necessary chemistry required by metal mills.

You receive a "settlement report" that shows you exactly how much of each commodity was recovered from your electronic assets.

We use a **mass balance system** so that the weight of your electronic assets received matches the weight of recoverable commodities plus waste materials going out.

That way, every electronic asset is accounted for, down to the last tenth of an ounce. No equipment with serial numbers intact leaves the processing center; everything shipped is either a consumable product or commodity. Nothing is destined for a solid waste landfill.
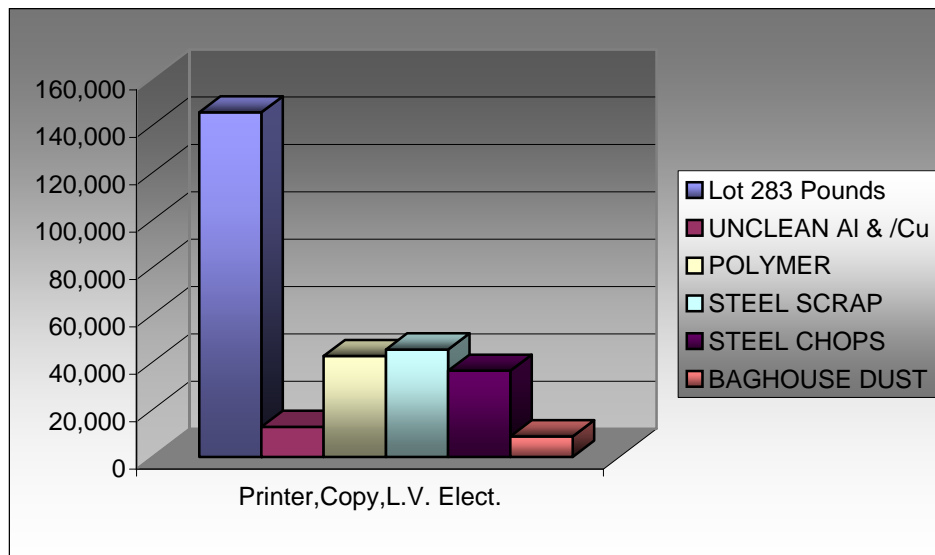

Fig. 4. The mass balance system details the individual customer loads going in and the total pounds by constituent going out.

Chasm provides Lifecycling solutions nationwide

Chasm Industries operates two "super centers" – in Los Angeles, CA and Columbus, OH -- that treat electronic assets with the Chasm incineration-free process. The company also operates a third processing center and warehouse in Windsor, CT, and two aggregation warehouses in Baltimore, MD and Chicago, IL.

Total capacity of all three centers combined exceeds120 million pounds of electronic waste per year. The LA center is authorized by the state of California to process CRTs in accordance with SB-20.

Five (5) Chasm Service Centers
- ### Service Over 300 Accounts Nationally
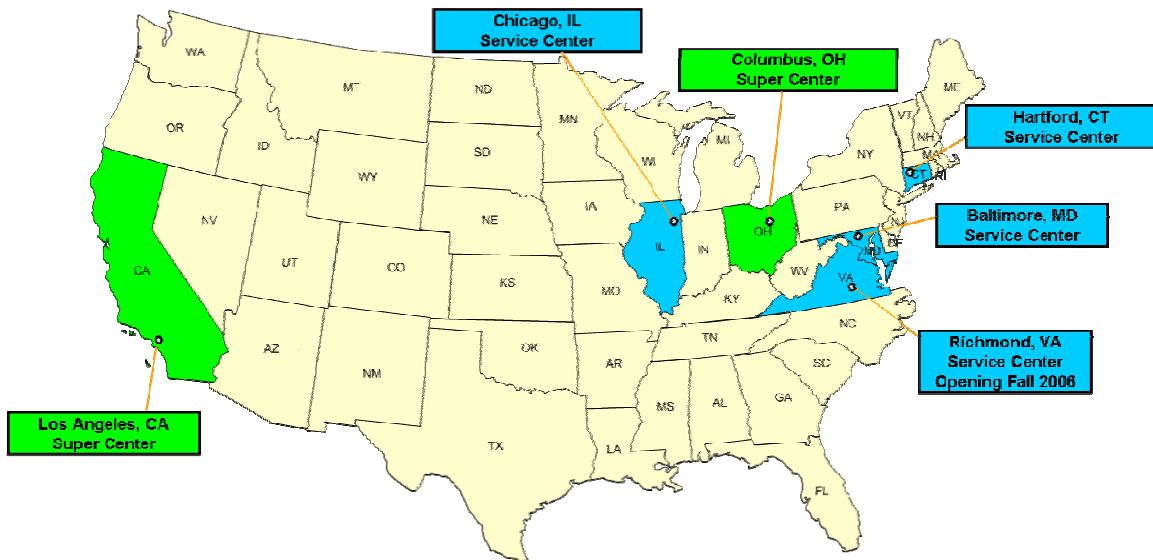- ### Servicing Multiple Industries

Fig. 5. Chasm processing and aggregation centers are located from coast to coast.

Fig. 6. Chasm processing center.

Chasm's Value Recovery section of the processing centers is used to stage new computers for deployment and for recording and staging remarketing products.

In the Chasm Recycling section, the metals recovered from the incineration-free process are expelled with the chemistry to match the metal mill's specification. The metal mills then create ingots that are further processed into new products.

Copper and aluminum are sold on the London Metal Exchange or COMEX warehouses. Recovered ferrous metals are sold to steel mills.

Millions of pounds of metal, plastics, glass, and refurbished assets are managed by the Chasm Trading Desk. The large volume and purity enables us to negotiate more favorable pricing with consumers of these recovered commodity materials.

Result: the Chasm Recycling process creates highly marketable commodities from material previously destined for landfill. Managed volumes through the commodities trading desk enable significant revenue opportunities not previously available in the IT equipment lifecycle.

Environmental Compliance

With the fast pace of technology, users of everything from PCs and mobile phones, to copiers and video game systems, are upgrading their equipment every few years.

As a result, the volume of electronic gear becoming obsolete in the U.S. has skyrocketed. And the disposition of this equipment has created huge environmental concerns.

Each year, more than 9.5 million tons of computers and other electronics are discarded in the U.S. alone. Some users throw away their entire PC. Others remove the best parts for reuse.

Either way, they leave piles of plastic and other toxic debris, exposing their companies to environmental liabilities. According to the EPA, only 10% of electronic products in the U.S. are recycled.

The Gartner Group estimates that 800 million PCs will be replaced worldwide over the next 5 years, adding more than 10 million tons of electronic waste to the environment.

The Chasm Recycling process solves the environmental liability issues of electronic asset recycling by performing all functions within our centers. Accountability is assured end-to-end. No downstream treatment partners are required to further process the materials before reaching the end consumer.

Economics

Chasm can significantly reduce the cost of electronic asset disposition by (1) reselling equipment that has not yet reached the end of its life and (2) recovering raw materials and reselling them into the commodities market.

Chasm maximizes recovery of economic value from electronic assets by positioning the materials closer to the ultimate consumer. For instance, old laptops can be sold on eBay directly to consumers instead of through brokers, enabling us to get premium pricing for your old hardware. By comparison, many remarketing specialists sell in bulk through brokers, reducing the profits.

We maintain in our computer system complete records of sales of your electronic assets to prove chain of custody. Although we cannot give legal advice in this white paper, and we urge you to consult counsel, liability generally ends when title has transferred to the buyer.

The remainder of the asset, which has reached the end of its useful life, is processed to recover raw materials – aluminum, plastic, steel – that can be sold as commodities.

Local recyclers often cannot process the high volumes required by today's increased demand. The output of a manual process remains individual components that require further treatment. Only the Chasm process produces a high volume of usable commodities and equipment that can be resold without further processing.

Chasm's recycling process is automated and produces high-volumes of metal streams that match the mills specific chemistry. This enables us to sell all our commodity streams on the open market. All toxins are managed under one roof.

And with material conversion centers across the country, transportation costs for old equipment are low.

In fact, disposing of your corporate electronic assets with Chasm's value recovery services may end up costing you nothing or even making you some money based on a percentage of what Chasm sells your used electronics for.

Efficiency

There is an old logistics management rule of thumb that says every time you add a step to a process, you multiply its complexity by the square of the total number of steps.

With the Chasm Lifecycle Management Solution, there is only one step required on the part of the customer to dispose of electronic assets: a phone call to Chasm.

With traditional electronic asset disposition, on the other hand, multiple steps and parties are involved.

To begin with, one party, typically an asset management firm, takes usable electronic components, parts, and devices. The asset manager then remarkets the electronics to recover a portion of their value.

A second party, a recycler specializing in e-waste processing, processes the remaining equipment to remove steel, aluminum, and other recoverable materials, and may sell the recoverable metals into the commodities market.

Logistics can be the largest cost component of electronic asset disposition. A large percentage of an electronics disposition budget is spent on transportation..

By compressing the electronic asset disposition supply chain to a single touch point, Chasm ensures that each asset is handled by only one set of hands.

This, in turn, dramatically reduces shipping and handling costs, creating significant savings for the customer when disposing of electronic assets.

Chasm Lifecycling Channel Partners

Proximity of the recycler to the electronic assets to be disposed of is important. Close proximity simplifies logistics and reduces shipping costs.

Volume and frequency of electronic asset disposition also affects best practices: a customer who wants to immediately dispose of 3,000 PCs has different requirements than a small business that buys a new PC every 18 months.

To best serve the needs of each customer, Chasm Industries has implemented an innovative **channel partnership strategy** unique in the asset management, recycling, and scrap metal industries.

Through this strategy, Chasm partners with vendors who are positioned to aggregate volumes of electronic assets ready for disposition. The channel partner picks up electronic assets from its customers, and palletizes them for delivery to the nearest Chasm processing center.

Chasm's channel partner could be a PC retailer, value-added reseller, systems integrator, IT services provider, asset manager, or original equipment manufacturer – any vendor responsible for installing new IT hardware and removing the "old iron" (obsolete equipment).

Or, the Chasm channel partner might be a logistics company, security firm, document shredder, environmental consultant, regional recycler, commercial waste hauler, hazardous waste management firm, or other third-party vendor.

Case study: Heritage Environmental

When American Airlines was switching over information systems, more than 35,000 computers and peripherals all across America -- approximately a million pounds of electronic hardware in all -- had to make way for the new.

Environmental consulting firm Heritage Environmental, hired by American Airlines to find the best-of-breed supplier of IT asset disposition services, chose Chasm.

Working with Heritage, Chasm played a major role in the PC disposition effort.

The airline wanted to make certain its vendors handled all this equipment in "an environmentally friendly way."

"These components contain heavy metals which can leach out and pollute drinking water," said Valerie Jones, Regional Environmental Manager, American Airlines/American Eagle. "We want to protect our environment and our company."

Chasm's proprietary incineration-free shredding and separation process reduced the end-of-life equipment quickly and efficiently into its commodity materials -- materials that could then be resold.

In addition, Chasm participated in remarketing the computer equipment that still had useful life, selling the gear through sales channels directly to consumers.

As Peggy Sterling, American's vice president for safety, security and environment, put it, "It is certainly a benefit from the economic standpoint, but it's also environmentally responsible."

The bottom line: In partnership with Heritage Environmental, Chasm helped American maximize returns on recovery and minimize security and environmental risks while keeping a million pounds of hardware out of landfills.

Asset Deployment

Chasm is one of only a few U.S. providers who can provide an end-to-end **lifecycle management solution** for IT assets that includes deployment as well as disposition.

Electronic asset deployment services help large organizations deploy significant IT assets according to their specific requirements and time frames, usually to multiple locations as well as remote users.

For example, when United Technologies purchased 30,000 computers from Dell, they needed those PCs deployed within 9 months throughout dozens of separate business units.

By engaging Chasm to manage the logistics, system configuration, and deployment, United Technologies was able to meet the timetable, which included numerous milestones and granular requirements.

Chasm's responsibilities included loading software, configuring machines, and deploying PCs on individual users' desktops.

Asset Redeployment

Old hardware should not always be disposed of. There are instances when it makes more sense to clean the equipment, refurbish it if needed, and either immediately redeploy it or keep the old hardware in inventory for future redeployment.

For instance, you may have users who do not need state-of-the-art desktop PCs, and can be served quite adequately by old PCs disposed of by other areas of your organization. When upgrading PCs throughout the enterprise, you may want to retain some or all of the old computers as spares and back-ups.

Chasm offers asset redeployment as part of its portfolio of total IT equipment lifecycle management services. Redeployment services can include data wiping the old PCs, reinstalling applications, storing the PCs in inventory, tracking their location, and redeploying them to new users as needed.

Information Systems

In 1997, to better manage the fixed asset databases of its customers, Chasm implemented an enterprise-wide IT system.

The system architecture uses IBM servers running Windows; workstations are a combination of Dell desktop PCs and IBM laptops. The main data center, equipped with a secure firewall, is located in Irvine, CA with additional data centers in several other states.

When Chasm handles deployment, records of all assets – including makes, model numbers, serial numbers, purchase date, and deployment date and location – are entered into the Chasm system.

When Chasm handles electronic asset disposition, we also create a detailed database of the obsolete assets including make, model, serial number, data erasure scan and results, and machine attributes. Assets are tracked once picked up or received from the customer.

If Chasm has handled the deployment of the original equipment as well as its disposition, the data is reconciled so the customer can get an accurate, updated electronic database.

The Chasm IT system can be accessed from the Chasm Web site using any standard Internet browser. Customers can access their electronic asset database on the Chasm system at any time with their password.

Having an accurate electronic asset database offers several tangible benefits to Chasm customers.

To begin with, HR can keep accurate track of whether remote users have turned in their old laptops. Corporate accountants gain an accurate picture of electronic asset value and disposition for tax purposes.

By reconciling asset deployment and disposition, IT managers can be correctly billed by software vendors for appropriate license upgrades rather than purchasing new copies of software they already own.

An up-to-date inventory of IT assets helps ensure accurate billing on maintenance and service contracts, eliminates support costs for assets the company no longer owns, and enables asset owners to take advantage of warranty entitlements.

Finally, in the event of a data security breach or environmental liability issue, the Chasm database provides a secure, comprehensive audit trail that proves compliance with data privacy and environmental rules and regulations.

Benefits of the Chasm Lifecycling Solution

The integrated Chasm Lifecycling Solution offers a portfolio of benefits that stand-alone asset management companies and recyclers cannot duplicate:

- *Security* – your old electronic equipment remains in one set of hands, those of an established and financially stable service provider, for the entire asset disposition process.

- *Low cost* – our one-stop electronic asset disposition solution is more economical than running your old equipment through multiple sets of hands. With strategically located processing and recycling centers from coast to coast, Chasm gives you reliable local service with nationwide capabilities.

- *High value recovery* – Chasm processing centers maximize the value of your used assets by converting it to a quality commodity stream or reselling it as re-usable equipment directly to consumers, thereby extending its useful operating life.

- *No e-waste* – the Chasm processing centers either convert your e-waste into commodities or resell usable equipment. The process generates zero e-waste into landfill and is fully compliant with all environmental regulations, minimizing your liability and enhancing your corporate image.

- *Documentation* – full reporting and certificates of destruction provide an audit trail that gives you peace of mind and documented proof of your environmental compliance.

- *Simplicity* – the Chasm Lifecycling Solution provides a single source for all your electronic asset disposition needs. There's no "cherry picking" of which assets Chasm will take; we handle every piece of electronic equipment you own.
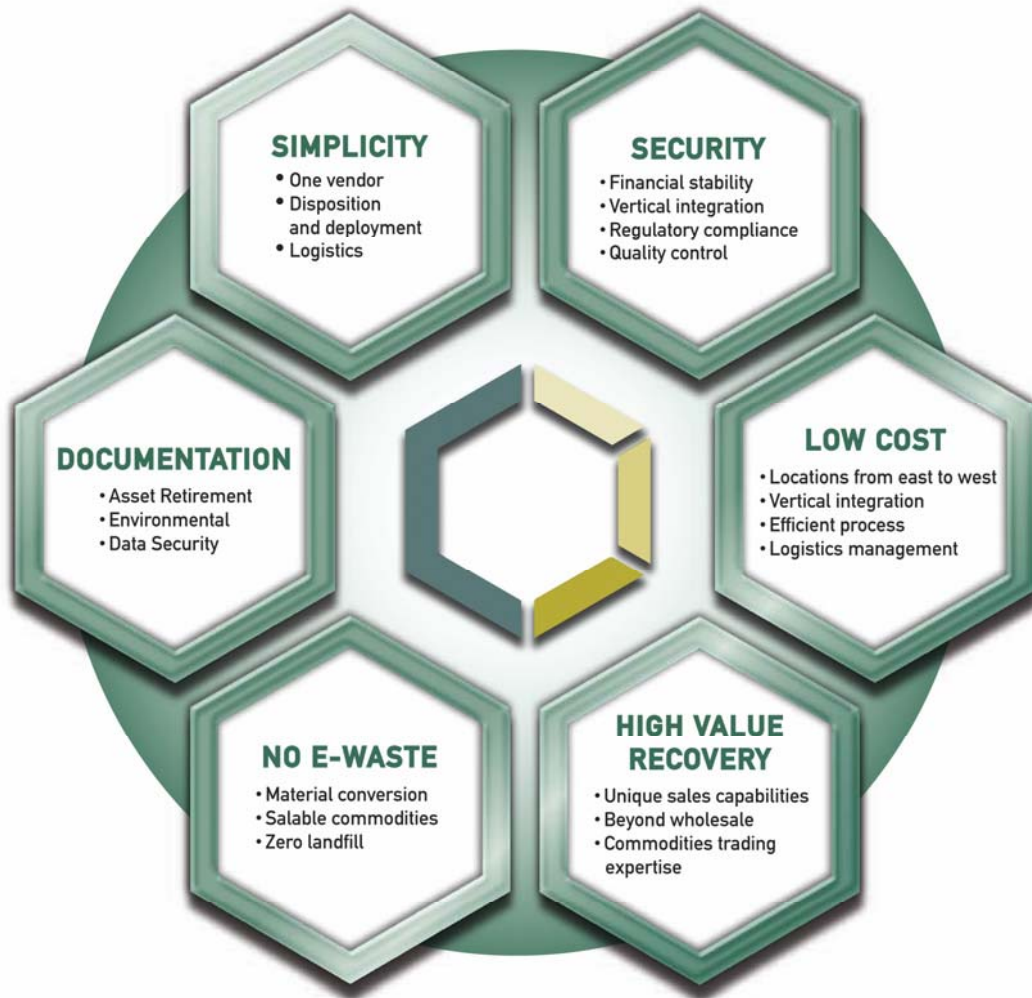
Fig. 7. Benefits of the Chasm Lifecycle Management Solution.

Conclusions

IT spending is increasing at a compound annual growth rate of approximately 6%. In the U.S., annual IT spending is expected to reach $501 billion – more than half a trillion dollars -- by 2008.

The National Safety Council estimates that there are 300 to 500 million obsolete computers in the U.S. ready for disposition. The volume of discarded electronics is growing almost three times faster than the overall municipal waste stream.

The federal Resource Conservation and Recovery Act (RCRA) prohibits most businesses from dumping obsolete electronic assets in landfills. Yet only 11% to 15% of computers are reused or recycled. In the U.S. alone, some 70 million computers have already been sent to landfills.

The conclusions are obvious:

1. The volume of electronic waste in the United States, already in the millions of tons per year, is growing rapidly.

2. Stricter environmental regulations and stiffer penalties for violation of data privacy have made disposition of corporate electronic assets an increasingly difficult and costly problem.

The Chasm Lifecycle Management Solution solves this problem. CLMS saves everyone – from consumers and small businesses, to middle market companies and Fortune 500 companies, to recyclers and waste haulers – time and money when disposing of obsolete electronic assets.

The Chasm solution offers the convenience and ease of single-source responsibility for asset disposition, while meeting the customer's need for verifiable compliance with both environmental regulations and IT security requirements.

In short, the CLMS transforms America's fastest-growing, most toxic waste stream into a significant source of valuable raw material, potentially turning corporate electronic asset disposition from a cost center to a profit center.

The Next Step

Chasm can perform a free, no-obligation evaluation of your current corporate electronic asset disposition process. We'll analyze every component and provide you with a firm quote.

Chasm offers a free toxicity analysis that can determine the content of lead, cadmium, and other pollutants regulated by the EPA in electronic assets prior to disposition.

We can provide at no charge a written assessment of environmental and security risks in current electronic asset disposition methods as well as suggest areas for improvement.

To find out how the Chasm Lifecycle Management Solution can help ensure environmental compliance, enhance data security, save you time and money, and maximize return on old assets … or to become a Chasm Lifecycling channel partner, or find the Chasm partner nearest you … contact Chasm Industries today:

Phil Alfaro
Phone: 415-541-5346
e-mail: palfaro@chasminc.com

Glossary

Asset management – the total management of an asset during its lifetime including procurement, deployment, configuration, maintenance, repair, upgrades, software licensing, decommissioning, and disposition.

Channel partner – a company that offers the Chasm Lifecycling Solution to its customers.

Commodity streams – metals and plastics that can be recovered in usable form from the electronics recycling process.

Data wiping – removing all applications and data from the hard drive or other memory of an electronic asset.

Demanufacturing – manually disassembling and data wiping electronic assets prior to recycling, resale, or disposition.

Deployment – delivering an asset to its end user and configuring it for usage.

Disposition – disposing of an asset in accordance with acceptable computer security and environmental standards.

Electronic asset – refers to any piece of hardware owned by a business or consumer.

Electronics processing – manually disassembling obsolete electronics, recovering consumable commodity streams, and disposing of waste streams. In the case of Chasm recycling, this conversion process is automated.

End of life (EOL) – an electronic asset that is obsolete, nonfunctional, or otherwise has reached the end of its useful operating life.

Lifecycle management – a subset of asset management encompassing major changes in the life of an asset such as deployment and disposition, but not including management of the asset during its operating life (e.g., upgrading, repairs, enhancements).

Recovery – receiving any value that remains in an asset, typically achieved through resale or recycling.

Recycling – breaking down the components of an electronic asset into a consumable state.

Redeployment – removing an asset from one desktop and deploying it on another desktop within the same organization.

Resale – reselling a used electronic asset that has not yet reached the end of its useful life into the secondary markets.

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