IT Asset Disposition Trends and Best Practices

2018 Benchmarking Report

Prepared by
Cascade Asset Management

This fourth annual benchmarking report provides information and research on security, environmental, and financial issues related to IT Asset Disposition (ITAD) and the more general IT Asset Management (ITAM) discipline.
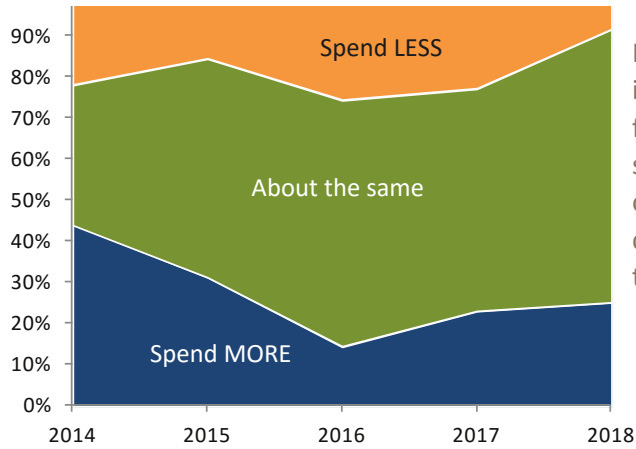
This report was built from data Cascade compiled through (1) a November 2017 customer survey, (2) an evaluation of more than 259,000 assets processed by Cascade in 2017, and (3) a review of related industry research.

This year's report provides additional data on resale values, disposition trends, and policy decisions that can help organizations further develop their ITAM and ITAD programs to better mitigate risk, lower overall program costs, and optimize the use of IT assets.

As a benchmarking tool, we encourage you to use the information to help understand how your ITAM/ITAD program compares to others and how you can further improve your systems to better attain your desired outcomes.

IT Asset Procurement Trends

Do you expect to spend more or less money on IT hardware in the future?

[Area chart: Spend More / About the same / Spend LESS, 2014–2018]

Y-axis: 0% to 90%
X-axis: 2014, 2015, 2016, 2017, 2018

- Spend LESS
- About the same
- Spend MORE

In our survey, respondents indicated a continued increase in their projected investments in IT hardware for the immediate future. More significantly, fewer organizations than in the past five reporting cycles think their spending will decline this year. It appears we are in the midst of a period of relative stability in IT Asset Management, where there isn't a need to catch up on deferred IT investments (as was the case in 2014 and 2015) that were brought on by the Great Recession.
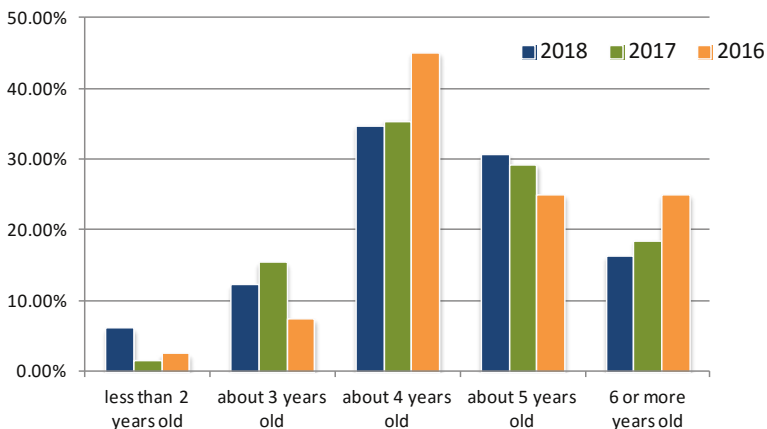
What percentage of employees in your organization are using smartphones provided by . . .

the employer
2016 25%
2017 30%

the employee (BYOD)
2016 13%
2017 16%

There continues to be an increase in the use of smartphones in organizations. Survey respondents reported an increase of 20% in the number of employees with company owned phones and a 23% increase in employees using their own phones for work. Industries with above average smartphone adoption (when provided by the employer) are manufacturing, healthcare and government/municipal. BYOD adoption is led by non-profits and the education sector.
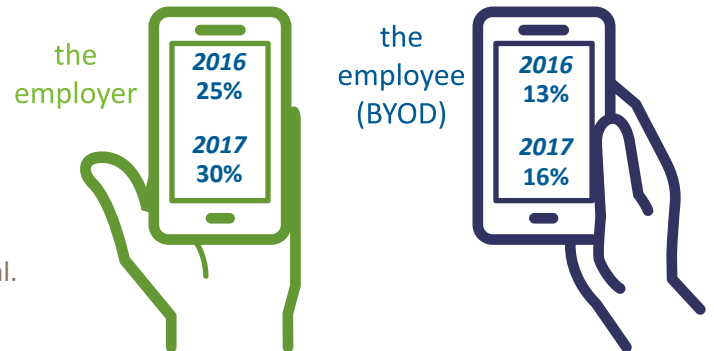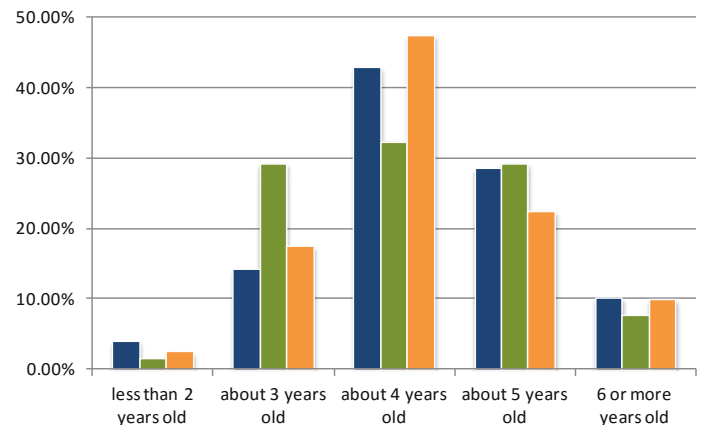
Steady refresh rates

How old are the majority of desktops you expect to retire in 2018 *(compared to 2016 and 2017)*?

[Bar chart: 2018, 2017, 2016]

Y-axis: 0.00% to 50.00%
Categories: less than 2 years old, about 3 years old, about 4 years old, about 5 years old, 6 or more years old

How old are the majority of laptops you expect to retire in 2018 *(compared to 2016 and 2017)*?

[Bar chart: 2018, 2017, 2016]

Y-axis: 0.00% to 50.00%
Categories: less than 2 years old, about 3 years old, about 4 years old, about 5 years old, 6 or more years old
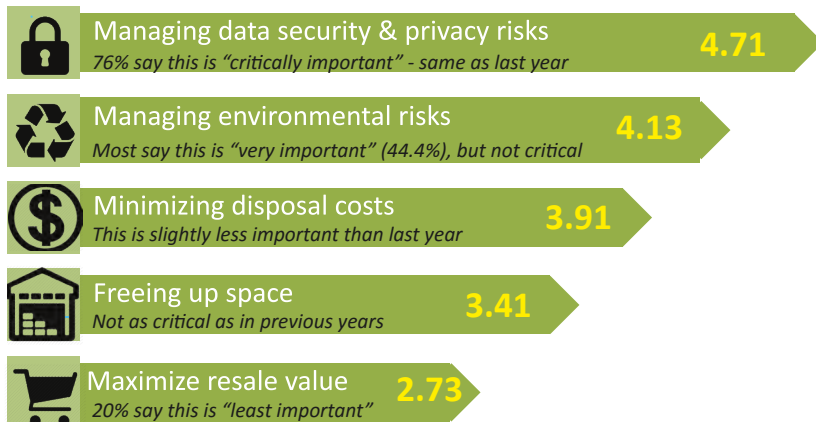
Just as investments in IT hardware are leveling off, survey respondents have been keeping a fairly consistent refresh rate for the past few years for their desktops and laptops. For desktops, 53.1% of respondents are now refreshing their devices every 4 years or less, compared to 52.3% in 2017 and 55.0% in 2016. For laptops, the refresh rate is extending slightly over the years. Respondents expect 61.2% of retired laptops to be 4 years old or less, compared to 63.0% in 2017 and 67.5% in 2016.

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IT Asset Disposition Priorities

How important are the following conditions when disposing of your IT assets?

rated on a scale of "1 to 5" with 5 being "critically important" and 1 being "least important"

Managing data security & privacy risks
76% say this is "critically important" - same as last year — **4.71**

Managing environmental risks
Most say this is "very important" (44.4%), but not critical — **4.13**

Minimizing disposal costs
This is slightly less important than last year — **3.91**

Freeing up space
Not as critical as in previous years — **3.41**

Maximize resale value
20% say this is "least important" — **2.73**

Despite changes with who participates in our survey each year, the rankings of what is most important to people when retiring IT assets remains consistent. Security continues to top the list and sets the stage for how decisions are made in the disposition process.

Cascade customers also recognize the importance of environmental responsibility, and many now promote their responsible ITAD program in sustainability leadership achievements.

Even though retired IT assets generate significant resale value, this is seen as the least important factor when making disposition decisions.
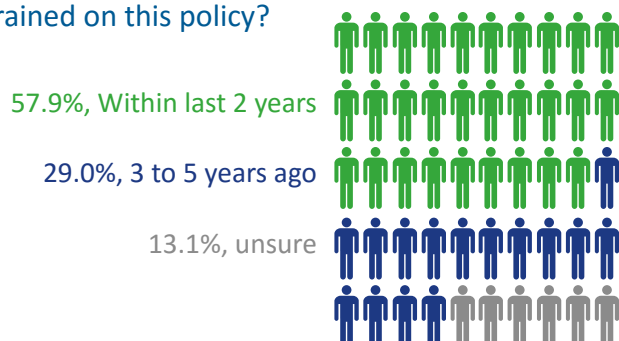
Security policies and programs

Many industries are regulated by some type of Privacy Protection Rule such as HIPAA or FACTA. For those organizations not required to comply with a particular security regulation, these privacy rules and the NIST 800-88 Guidelines for Media Sanitization provide a helpful framework for developing a data destruction policy and program. All industries can benefit from a robust security program that includes the destruction of data when assets are retired.

When was the last time your policy (about IT asset disposal) was reviewed or updated?

60.5%, Within last 2 years

13.2%, 3 to 5 years ago

26.3%, unsure
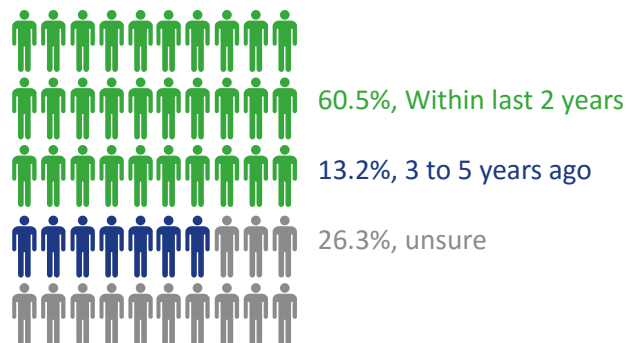
When was the last time you were trained on this policy?

57.9%, Within last 2 years

29.0%, 3 to 5 years ago

13.1%, unsure

What's included in your ITAD security policy?

☑ Disposition of assets to a 3rd party vendor 73.7%

☑ Which wiping stardard is specified for data sanitization 68.4%

☑ Company owned mobile devices 55.3%

☑ Repurposing of assets within the organization 44.7%

☑ Donation of assets to charities 31.6%

☑ Employee acknowledgement of policy 29.0%

☑ Return of assets to leasing company 23.7%

☑ Sales of equipment to employees 21.0%

☑ Return of damaged/warranty return assets to a manufacturer or distributor 15.8%

☑ Employee training 13.1%

☑ Employee owned devices (BYOD) 7.9%

Balancing Security & Value - It's All Con

Smartphones

$44.10

⬇ **-21%**

What about data security?

The NIST 800-88 Guidelines for Media Sanitization provide a comprehensive approach to identifying data storage devices and eliminating data from these devices, whether through electronic or physical means. Cascade clients can choose to allow Cascade to sanitize data to the NIST "Purge" of "Clear" level (standard process), perform a 3-pass data over-write on HDDs, or physically remove and shred all drives for destruction.
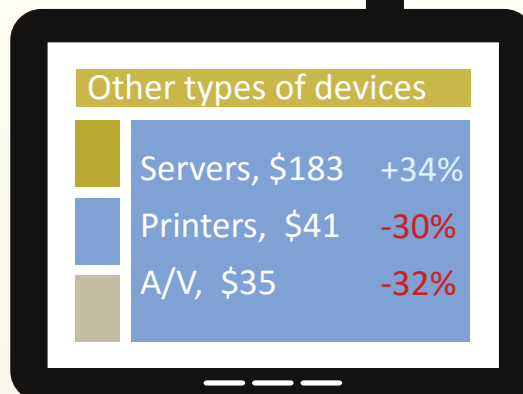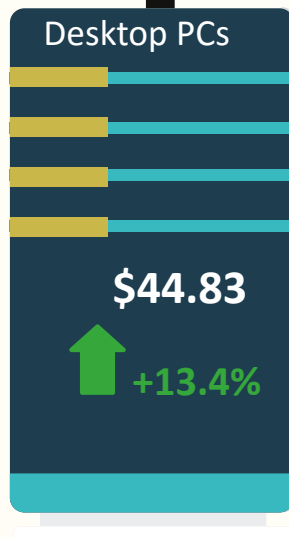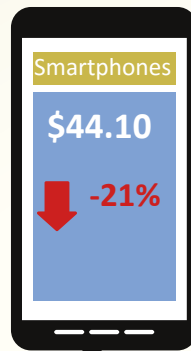
The level of data destruction should match the policy set by the organization. Any of Cascade's secure destruction methods meet Privacy Protection regulations.

When customers allow, Cascade te
assets that still have value. All devi
information, whether that be data
tags placed on devices. For 2017, t
for our clients from reselling their l
are the average resale prices and c

Desktop PCs

$44.83

⬆ **+13.4%**

How firms choose destruction

Cascade clients select from one of three data destruction methods. This table shows the percent of assets processed each way in 2017.
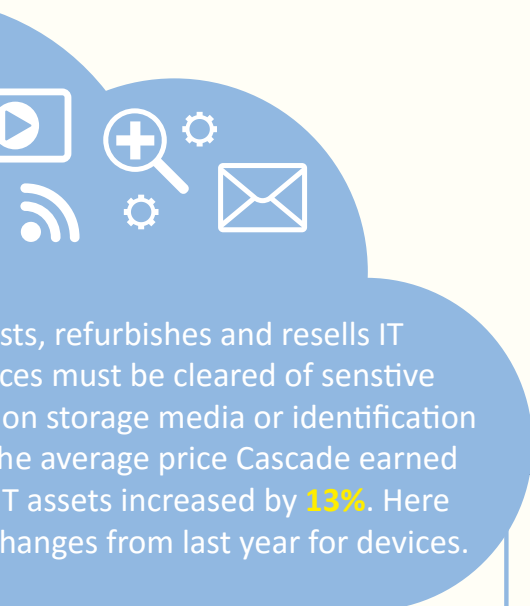
	Laptops	Desktops
Standard NIST Purge	57.7%	58.4%
3-Pass Wipe	12.8%	11.8%
Remove and Shred Media	29.5%	29.8%

When firms choose to have their hard drives or other media removed and shredded prior to resale of the rest of their devices, they sacrifice about $10 of resale value per device.

LCD Monitors

19" -	$11.57
22" -	$20.93
24" -	$30.07

LED monitors typically generate a 2x premium over CCFL LCDs.

Other types of devices

Servers, $183	+34%
Printers, $41	-30%
A/V, $35	-32%

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nected

Network Gear
$100.72 +7.9%↑

sts, refurbishes and resells IT
ces must be cleared of senstive
on storage media or identification
he average price Cascade earned
T assets increased by **13%**. Here
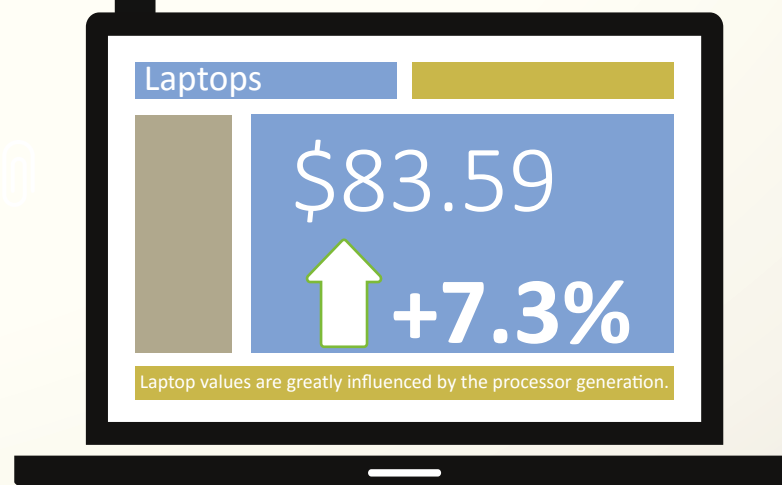hanges from last year for devices.

Why did values increase overall?

While the value of a particular device model may decrease over time, overall average resale prices increased at Cascade as newer equipment is refreshed each year. In addition, the following factors contirbuted to a new trend of increased resale values . . .

The **quality** of enterprise gear is better than ever (devices last longer). Often times, a replacement of the hard drive, a new laptop battery, and a fresh operating system install gives new life to a well built enterprise level computing device.

Laptops and desktops are **not obsoleted by software** upgrades like they used to be. Windows 10 is more efficient in using computing resources and open source software can also be installed on older devices.

Cascade's clients are **taking better care** of their equipment and maintaining more consistent refreshes. This enhances resale opportunities and values which we share with our ITAD clients, which further incentivizes them to get more quality resellable equipment to us.

(with CCFLs)

-3.8%
-3.9%
-24.1%
↓

Sorry, CRT monitors and <19" monitors have little or no value

Laptops

$83.59
↑ **+7.3%**

Laptop values are greatly influenced by the processor generation.

Mitigating Security Risk

Data for sale

The **National Association for Information Destruction (NAID)** went out to resellers of used computer equipment to see how well data was destroyed on tablets, phones and hard drives before they were sold to the general public. They bought items from places like eBay, New Egg, and Amazon – resellers that may source this equipment from consumers and businesses. They found overall that 40% still retained some amount of personal information. A certified data destruction process, like Cascade's, can greatly mitigate this risk.

44% of hard drives

50% of tablets

13% of mobile phones

. . . bought on the used market retained personally identifiable information

You don't know what you don't have, if you don't track it.

In a survey of 181 large US corporations operating in the financial, healthcare, retail and utility sectors, **Compliance Standards** reported that 38% of enterprises say they can't account for all their devices. They are essentially unable to verify whether these assets were properly retired, lost or stolen.

When Cascade asked our survey repondents what they tracked in their asset management programs, desktops, laptops and servers led the list (see table). At the same time, other devices that also contain data (smartphones, individual hard drives, VoIP phones, and data tapes) were tracked less often. New IoT products are managed even less.

Tracking data bearing assets to the point of final disposition is a requirement of privacy protection regulations, and it also an essential risk mitigation strategy.

Assets Tracked by Surveyed Firms	All	Some	None*
Laptops	87.8%	6.1%	4.1%
Desktop Computers	87.8%	4.1%	6.1%
Servers	87.8%	0.0%	6.1%
Printers/multi-function devices	77.6%	6.1%	12.2%
Tablets	71.4%	4.1%	20.4%
Network devices (routers, switches)	67.4%	6.1%	14.3%
Smart phones	57.1%	12.2%	28.6%
Monitors	55.1%	6.1%	32.7%
Voice over IP (VoIP) phones	51.0%	8.2%	28.6%
Hard drives from data centers	46.9%	6.1%	32.7%
Desk phones	42.9%	10.2%	40.8%
Other hard drives	36.7%	14.3%	32.7%
Backup data tapes	36.7%	6.1%	36.7%
Internet of Things (IoT) appliances	24.5%	10.2%	46.9%
Medical equipment	18.4%	2.0%	59.2%
Optical media (CDs/DVDs)	16.3%	10.2%	61.2%

* values don't always add to 100% - some answered "unsure"

Which methods do you use (internally) to control and destroy data on hard drives?

Organizations report that they may use one or more ways to control and destroy data on their hard drives before these devices leave their premises. Still, many continue to use less effective destruction processes like drive formatting.

### Which methods do you use to control and destroy data on hard drives?

format the hard drives 20%	degauss the hard drives 9%
encrypt drives 9%	punch hole through drives . . 4%
wipe using free software 24%	shred the drive 9%
3-pass "DoD" wipe 18%	track with Computrace 0%
1-pass "NIST" wipe 9%	hit the drive with a hammer. .11%

In this year's survey, 56% of respondents didn't perform any onsite media sanitization or destruction themselves and instead outsourced all data destruction work to Cascade.

Special media sanitization

Different technologies are required to destroy data on Solid State Drives (SSD) and flash media in many tablets and smart phones. Our survey indicates many firms are still looking for processes to sanitize these media. While 53% of respondents said they have a process in place to sanitize data from smartphones, less than half were destroying data on SSDs.
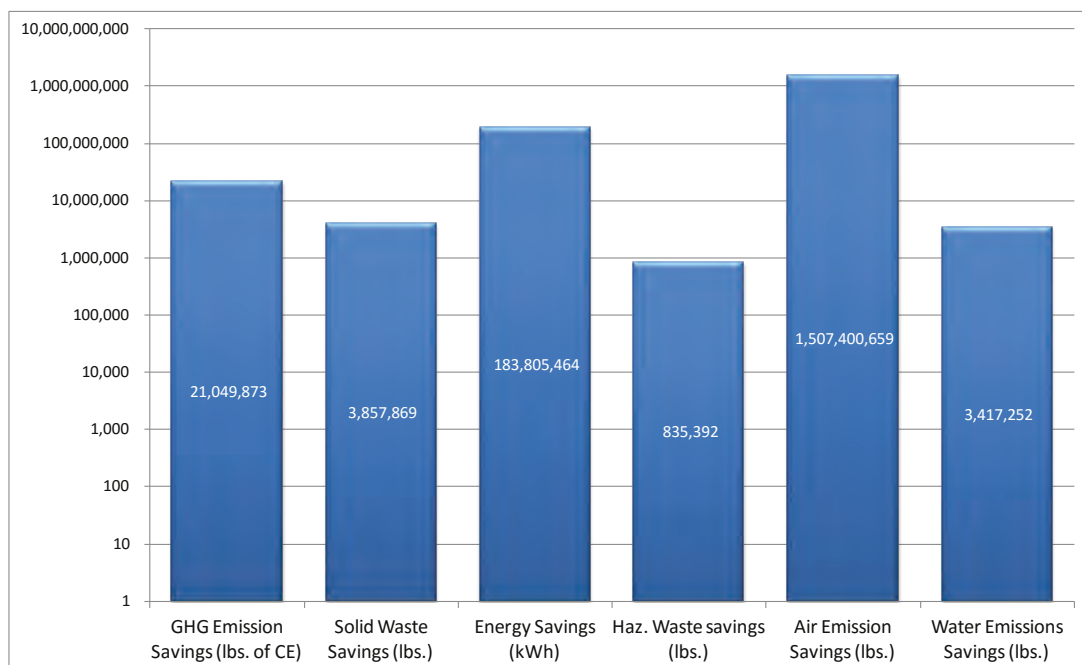
Do you have an internal process in place to destroy data on SSDs?

Yes 44.4%

No 55.6%

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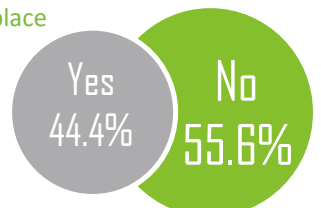
Environmental & Justice Issues

Environmental benefits of electronics reuse and recycling by Cascade

IT equipment received from all customers in 2017

Category	Value
GHG Emission Savings (lbs. of CE)	21,049,873
Solid Waste Savings (lbs.)	3,857,869
Energy Savings (kWh)	183,805,464
Haz. Waste savings (lbs.)	835,392
Air Emission Savings (lbs.)	1,507,400,659
Water Emissions Savings (lbs.)	3,417,252

The reuse and recycling of electronics by Cascade and its customers had the equivalent environmental impact of . . .

- saving enough energy to power 15,362 typical U.S. homes
- removing 6,411 passenger cars from the road for 1 year
- keeping 10,525 tons of carbon out of the atmosphere

Cascade customers can request a personal environmental impact chart. Contact us for more information.

Promoting Digital Equity

Digital equity is the idea that all people should have equal access to digital technology. Currently, in the United States, there are 5 million households with school-aged children who do not have access to the internet. More than 75 million people in the United States are not connected to the Internet. Disproportionately from low-income and minority communities, these populations remain isolated from our digital society and miss out on opportunities.

Cascade partnered with municipalities, non-profit technology organizations, and several enterprise customers on projects to offer high speed affordable Internet service and donated, refurbished enterprise-grade equipment to over 350 households in the Madison and Milwaukee areas.

More companies can help address this gap by donating a portion of their high quality computer equipment to similar programs. Through a new digital equity program run by e-Stewards and the EveryoneON initiative, Cascade can manage the donation process while ensuring all corporate data is first destroyed and non-working items are recycled properly.

The cost of environmental noncompliance

Nationwide retailer **Big Lots** will pay more than $3.5 million to settle accusations that it improperly landfilled electronics and hazardous waste. The company reached a civil settlement with 35 district attorneys from throughout California. Prosecutors accused Big Lots of failing to properly manage and dispose of materials at its 206 California retail stores and its Los Angeles-area distribution center. Employees allegedly sent e-scrap, corrosive and ignitable liquids, toxic materials and batteries to landfills that weren't authorized to accept those materials.

Also, a California judge approved a $1 million settlement with **Dollar General** stores over charges that the company sent scrap electronics, batteries and other materials to improper landfills.

The US Department of Justice is also conducting active investigations on a number of electronics recyclers they believe fradulently misled customers to think they were responsibly managing their electronics. One e-scrap executive from processor Zloop was recently found guilty of conspiracy and fraud charges.
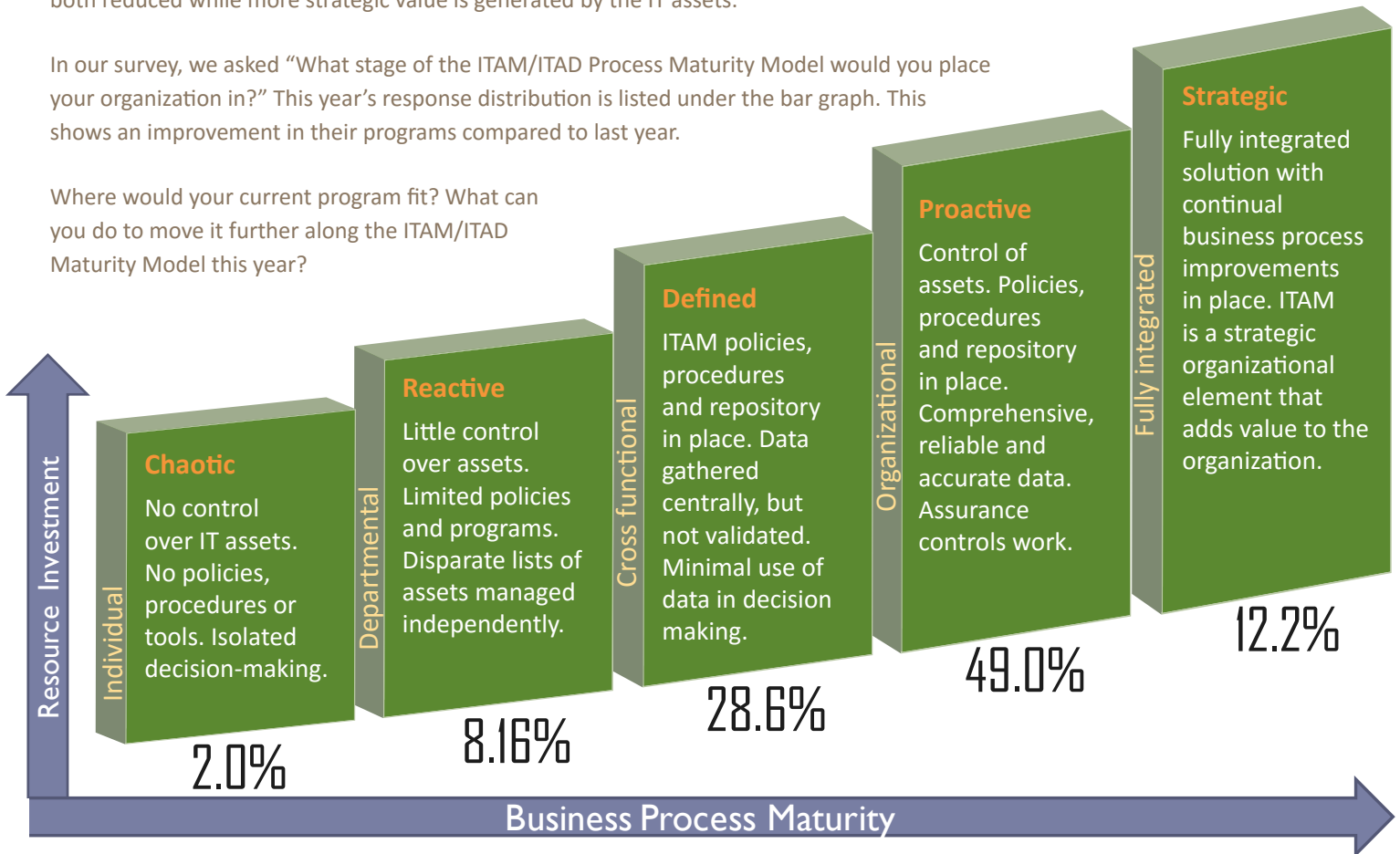
It pays to know where your electronics go and that you can be confident (through a certification program like e-Stewards) that your equipment is processed legally and responsibly.

ITAM/ITAD Business Process Maturity Model

Organizations find themselves in different development stages of their IT Asset Management and Asset Disposition programs based on the complexity of their systems and the resources they can allocate to this process. Thse different stages are illustrated in the graph below. Ideally, as an organization's ITAM program matures, the total cost of IT ownership and security risk from data loss are both reduced while more strategic value is generated by the IT assets.

In our survey, we asked "What stage of the ITAM/ITAD Process Maturity Model would you place your organization in?" This year's response distribution is listed under the bar graph. This shows an improvement in their programs compared to last year.

Where would your current program fit? What can you do to move it further along the ITAM/ITAD Maturity Model this year?

Resource Investment

Chaotic
Individual
No control over IT assets. No policies, procedures or tools. Isolated decision-making.

2.0%

Reactive
Departmental
Little control over assets. Limited policies and programs. Disparate lists of assets managed independently.

8.16%

Defined
Cross functional
ITAM policies, procedures and repository in place. Data gathered centrally, but not validated. Minimal use of data in decision making.

28.6%

Proactive
Organizational
Control of assets. Policies, procedures and repository in place. Comprehensive, reliable and accurate data. Assurance controls work.

49.0%

Strategic
Fully integrated
Fully integrated solution with continual business process improvements in place. ITAM is a strategic organizational element that adds value to the organization.

12.2%

Business Process Maturity

Partnering to protect security and increase value

Cascade actively collaborates with our customers to ensure their security requirements are met while minimizing the cost of asset disposition. We work in partnership with our clients to maximize resale opportunities (when appropriate) and optimize handling and reporting costs. As a result, we are able to show that a responsible asset disposition program can protect the organization's security and reputation and potentially generate revenue for the company. Through this partnership, Cascade reduced the overall net disposition cost to our customers by over 22% in 2017 compared to the previous year.

Contact Cascade for further assistance.
Safe & Sound® IT Asset Retirement Since 1999.

"I know that when Cascade picks up our hardware and hard drives for disposal, our company is in good hands. Cascade understands the importance of security and compliance."

- Terri Deist, CDW

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