

CASCADE

ASSET MANAGEMENT



2023

9TH ANNUAL ITAD BENCHMARKING REPORT

Managing IT Asset Disposition During Changing
Economic Times

ABOUT THIS REPORT

This 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.

The findings presented in this report were derived from the following set of research and analysis:



SURVEY RESULTS

Cascade's annual benchmarking survey compiled detailed responses from 54 enterprises and organizations collectively representing over 231,100 employees.



MARKET RESEARCH & INSIGHT

An analysis of key topics impacting ITAD decisions is presented throughout this report.



PROCESSING DATA

More than 1.2 million assets processed by Cascade Asset Management between 2019 - 2022 were evaluated and analyzed for disposition trends.

We encourage you to use the benchmarking information to help you understand how your ITAM/ITAD program compares to others and how you can further improve your systems.

Cascade can also use this body of knowledge to compare your organization's IT asset disposition activity against this benchmark and the leaders in the industry to identify areas of growth and strategic development. **Contact us for more information and an individual consultation.**

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KEY TRENDS

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DATA SECURITY DOMINATES DISPOSITION

Continued updates to the Morgan Stanley disposition data breach, as well as increased hacking incidents, have likely driven more organizations to firmly place data security as their first disposition priority. In our survey question regarding what criteria organizations use when disposing of IT assets, “Managing Data Security and Privacy Risks” was ranked number one as “critically important.” In fact, it gained forty more percentage points than the second-highest category, “Quality of Customer Service.” Fifty-three percent of respondents reported they rely exclusively upon their disposition vendor for data destruction.

In addition to ranking data security as “Critically Important,” several survey respondents offered comments on the matter. Among their concerns was a secure chain of custody, meeting internal security policies, disposing of assets with a reputable firm that has data destruction capabilities, and recycling assets responsibly.

CUSTOMER SERVICE GROWING IN IMPORTANCE

As mentioned above, “Quality of Customer Service” received the second highest number of “Critically Important” votes, just ahead of “Managing Environmental Risks” and “Minimizing Costs Associated with Disposal.” Although, the environment proved to be a priority; it received 66% of the “Very Important” votes. Also worth sharing, several respondents noted they place a high value on the ability to track assets throughout the disposition process. This desire appears to be increasing as companies are growing in size while also allowing remote work. Other comments included a need for automation to help save time, improve accuracy, and fulfill record-keeping requirements.

COULD A RECESSION AFFECT THE ITAD INDUSTRY?

We are excited about the possibilities of 2023, but it’s hard to ignore the word “recession” is getting a lot of attention lately. These are strenuous times as labor and processing costs are trending upward, while revenue earned from used equipment sales and scrap material is trending downward. In the face of economic challenges, some ITAD providers may make short-sighted decisions that have detrimental effects on their clients’ businesses.

Overall there are four core values that guide organizations in their IT asset disposition decisions.

-  **SECURITY:** Using certified chain of custody and data destruction methods
-  **SUSTAINABILITY:** Leading in recycling practices that minimize environmental impact
-  **SAVINGS:** Offering re-marketing services that provide the greatest return for your reusable assets
-  **SATISFACTION:** Providing easy, reliable and friendly service

Choosing the right ITAD partner can help companies avoid litigation, preserve their reputation, and uphold environmental regulations. **To help in that effort, we developed a Recession Risk Checklist. Download it here:** <http://bit.ly/3vQrcqr> or use the QR code at the right to read our blog post and download the checklist. The list enables IT professionals to match risks with safeguards that can help protect your company. **Contact us for more information on how we address these factors.**



The average cost of a data breach in 2022:

\$9.44M

UNITED STATES

\$4.35M

GLOBAL

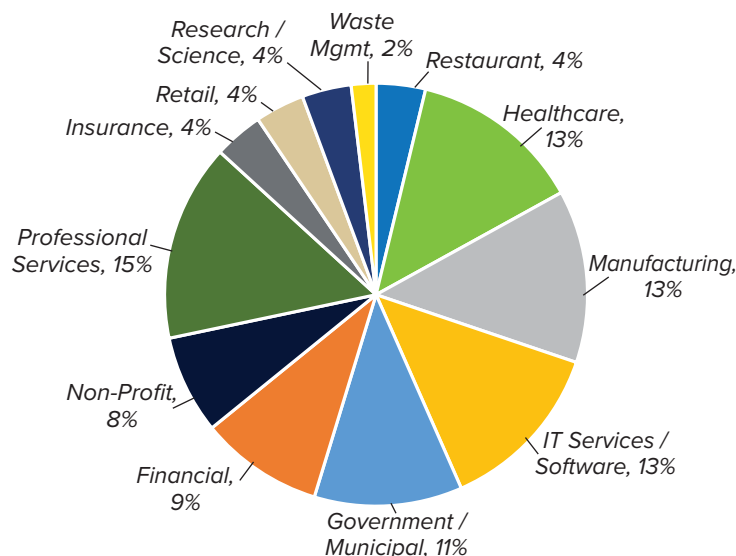
Source: [IBM.com/reports](https://www.ibm.com/reports)

DEMOGRAPHICS

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WHICH TERM BEST DESCRIBES YOUR INDUSTRY?

Participants in the benchmarking survey identified with 12 different industry sectors. The highest category of respondents (15%) work in professional services which was comprised of legal, accounting, real estate, architecture, staffing and marketing organizations. Healthcare, manufacturing, and IT services/software were represented equally at 13%. Government was the next highest group of respondents at 11%, followed by financial (9%) and non-profit organizations (8%). The remaining percentages were made up of insurance, retail, research/science, waste management, and restaurant industries.

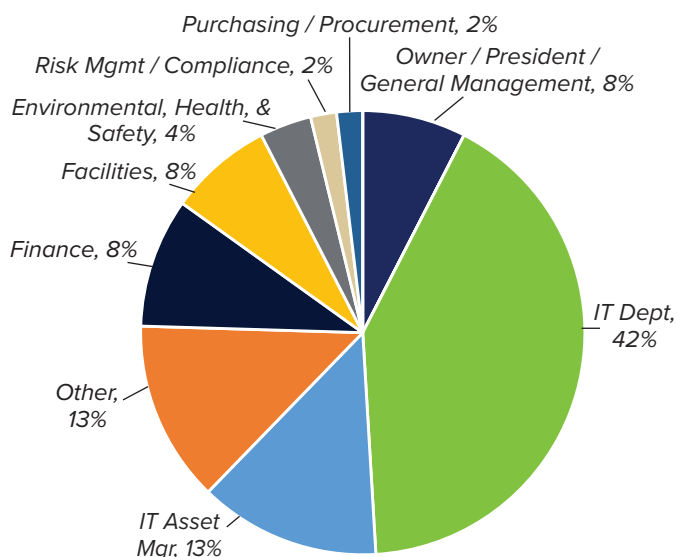


INDUSTRIES REPRESENTED

WHICH BEST DESCRIBES YOUR ROLE IN YOUR ORGANIZATION?

The roles represented by this year's survey respondents were very similar to our 2021 results. More than half of the 2022 survey participants are from the organizations' IT or IT Asset Management programs. A shift from facilities management, environmental services, and other "waste disposal" roles historically handling electronic disposal appears to be ongoing.

Other roles participating in the survey included finance departments, executives, environmental programs, procurement, and supply chain departments. The "other" category was primarily made of the people who wear several hats within their organization, such as finance and procurement or IT and purchasing.



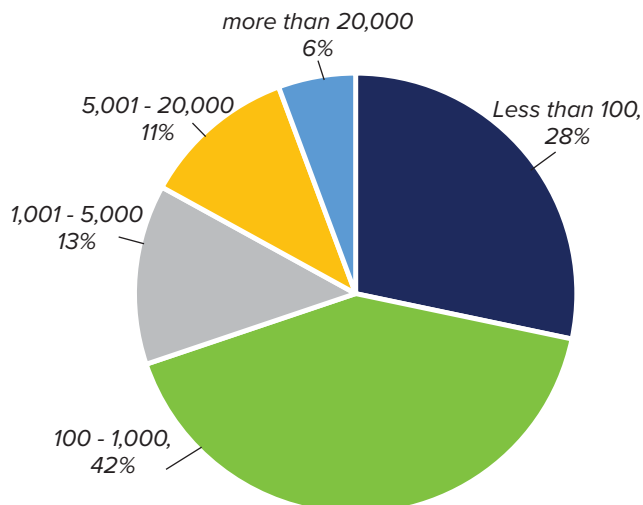
ROLES REPRESENTED

HOW MANY EMPLOYEES ARE IN YOUR ORGANIZATION?

(ALL SITES WITHIN THE US ONLY)

The organizations who participated in the study ranged in size. The largest category (42%) was medium-size organizations with 100 - 1,000 employees. Twenty-eight percent of respondents were from smaller companies with less than 100 employees. The remaining 30% represented large companies with over 1,000 employees.

The average employee count of the organizations who participated in the survey was just over 4,362 people. We estimate the aggregate number of employees represented to be over 231,100 people.



OF EMPLOYEES REPRESENTED

POST-COVID WORKPLACE TRENDS

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WORK AT HOME

This year's respondents reported similar results as last year. Pre-pandemic, about 19.8% of their workforce worked from home (versus last year's reported 19.1%). A year from now, respondents predict that 36.9% will work from home. This compares to 30.1% in last year's survey.

There was a noticeable difference in the "during the pandemic" statistic compared to last year. In the 2021 survey, respondents reported 38.2% of their employees worked from home. This year's average was 67.0%. The shift could be explained by some slight changes in the industry types who participated this year. Fewer healthcare organizations (-3%) completed a survey, and we did not receive responses from agriculture, energy/utilities, and distribution organizations. It is likely that many workers in these industries, some of which are large employers, would have reported to work rather than set up home offices.

BEFORE THE PANDEMIC

19.8%

DURING THE PANDEMIC

67.0%

1 YEAR FROM NOW

36.9%

DEVICE RETURNS MOST POPULAR ANSWERS



65%

BRING THE DEVICE TO
THE COMPANY

54%

RETURN TO
CONSOLIDATED
COMPANY LOCATION

MANAGING DEVICES WITH A REMOTE WORKFORCE

We asked survey respondents how they manage the return of their IT devices when an item needs to be replaced, retired, or disposed (they could check all answers that apply). The most popular answers by far were bringing the device to the company or returning it to a consolidated company location. Much smaller percentages of organizations ask the employee to ship the item to a disposition vendor, give the device to the employee, or ask the employee to recycle or donate the item.

A few respondents provided comments on this question. It seems the company's plan of action varies depending on the employee's location. If the employee resides within the same region as the company, they may be expected to return the device the next time they're near the office for meetings, trainings, etc. If the employee is working a considerable distance from their employer, shipping is the best option. As noted in the "Most Important Issues" survey question, tracking assets among a remote workforce is a challenge that organizations are trying to work through.

60%

of organizations **DO NOT**
have an internal process
in place to destroy data on
mobile devices

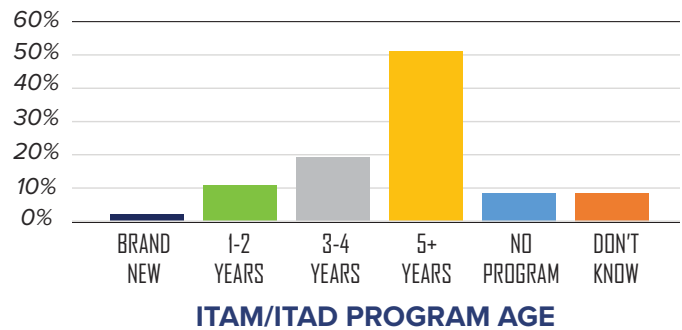
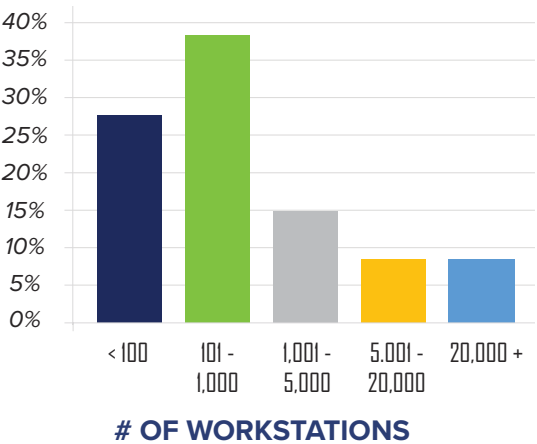
ASSET MANAGEMENT PROGRAM

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HOW MANY COMPUTER WORKSTATIONS DOES YOUR ORGANIZATION HAVE?

(DESKTOPS & LAPTOPS WITHIN THE US ONLY)

To help gain further understanding of the type and size of the organizations participating in the survey, we asked how many workstations they managed. All categories were represented, but most fell into the 101 - 1,000 category (38%). “Less than 100” made up the second largest group at 28%.



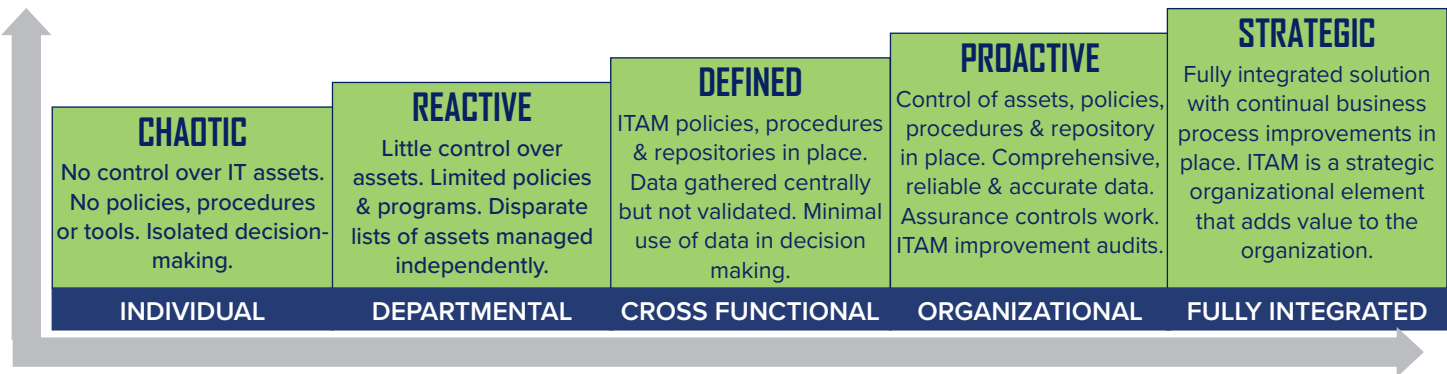
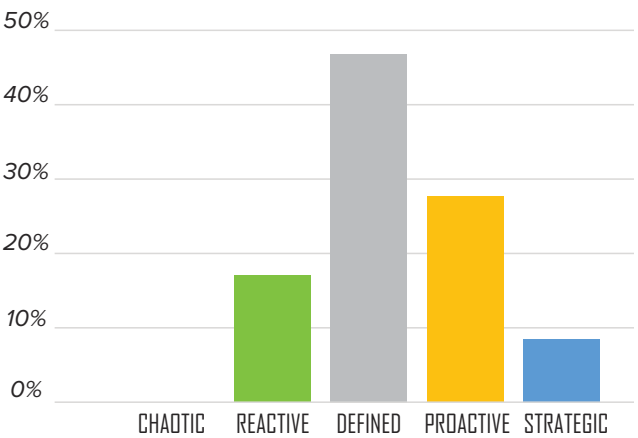
HOW LONG HAS YOUR IT ASSET MANAGEMENT PROGRAM BEEN IN PLACE?

We asked respondents how long they have had a program that tracks where their IT assets are and when they need to refresh them. Over 50% of organizations said their program was over five years old. The next most popular answer was 3-4 years old (19%), followed by 1-2 years old (11%). One observation associated with maturing ITAM programs is the adoption of best practices.

WHAT STAGE OF THE ITAM/ITAD MATURITY MODEL WOULD YOU PLACE YOUR ORGANIZATION IN?

(REFERENCE THE DIAGRAM BELOW)

Compared to last year, the trend regarding our respondents' ITAM and ITAD program maturity changed slightly. This year, 47% of companies categorized their program as “Defined,” and 28% identified with the “Proactive” stage. Last year's respondents rated themselves at 41% and 26% respectively. This year none of the respondents rated their program as “Chaotic,” whereas 2% chose that option last year. As for the “Strategic” category, 9% of survey respondents aligned with that stage compared to 13% in 2021.



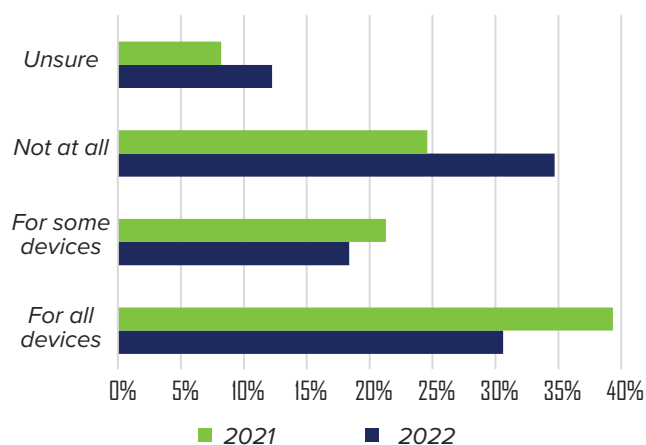
MOBILE DEVICE MANAGEMENT

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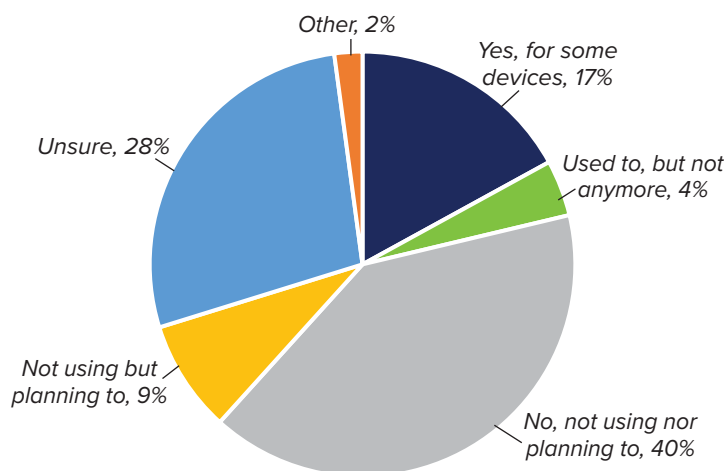


MOBILE DEVICE TRENDS

Our survey again indicates organizations continue to evolve in their programs to secure and control data on mobile devices and SSDs, which are becoming the predominant storage media at the end-user computing level. The percentage of organizations with some level of Mobile Device Management (MDM) implementation dipped this year: 49% in 2022 versus 61% in 2021. The decline could be attributed to the growing number of companies that implement BYOD policies for employee smartphones, in which case device management takes on different forms. The number of respondents that indicated they do not have an MDM program in place increased ten percentage points to 35%.



MOBILE DEVICE MANAGEMENT



ANTI-THEFT TRACKING ON MOBILE DEVICES

ANTI-THEFT DEVICE TRACKING

We asked respondents whether they install a tracking tool to monitor and remotely lock or wipe their laptops. Services like Computrace® by Absolute Software can be installed on the BIOS of a device and use a “persistence technology” to load an agent onto the hard drive/SSD of the device to “call-in” to the tracking service whenever the device is connected to the Internet. Users subscribe to this service to allow them to track, disable, or remotely wipe the drive of the device. This year about 45% noted they do not subscribe to this service. Just over 17% are already using this tool while another 9% plan to install it. A small number (2%) rely on other tools such as Apple’s “Find My” app. The remaining (28%) were unsure if their organization has this capability.



MOBILE DISPOSAL
MOST POPULAR METHODS

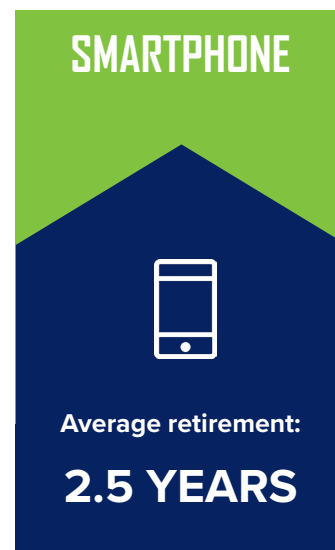
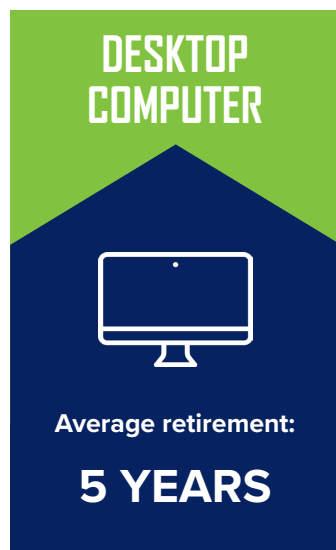
1.
ELECTRONIC DISPOSAL FIRM
(Cascade or other ITAD providers)

2.
TRADE-IN PROGRAM WITH MOBILE CARRIERS

HARDWARE TRENDS

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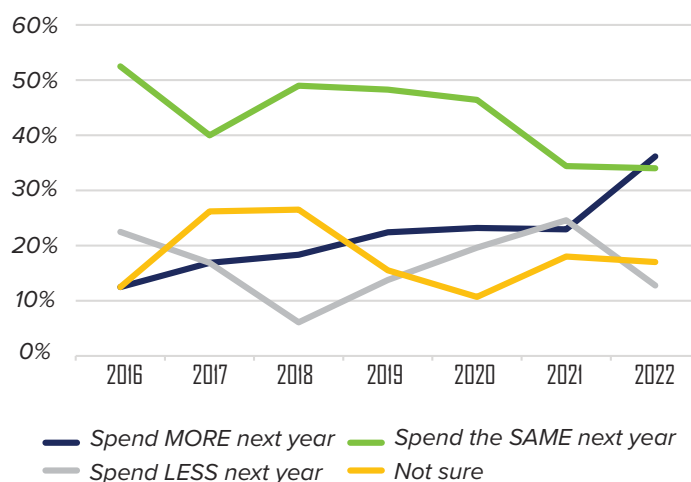
WHAT IS THE AVERAGE AGE OF THE ASSETS YOU EXPECT TO RETIRE IN 2023?



PREDICTED IT HARDWARE INVESTMENT FOR 2023

This year's survey respondents revealed a bullish perspective on their IT hardware investments for 2023. Over 36% of those who reported on their planned IT purchases indicated they expect to spend more this year. This is the most Cascade has recorded in this category. Those who plan to continue the same investment as last year remained steady at 34%. Only 12% of respondents plan to spend less next year, which is the lowest figure since 2018.

It is noted that the results from Cascade's survey contrast with other reported IT predictions for 2023. Perhaps the industry types and organization sizes of those who responded to the Cascade survey differ from other surveys. One possible explanation for the predicted increases reported by our survey respondents is they invested in IT assets at the beginning of the pandemic and are now planning replacements. Additionally, there are still government programs in place that support some industries with IT and infrastructure investments.



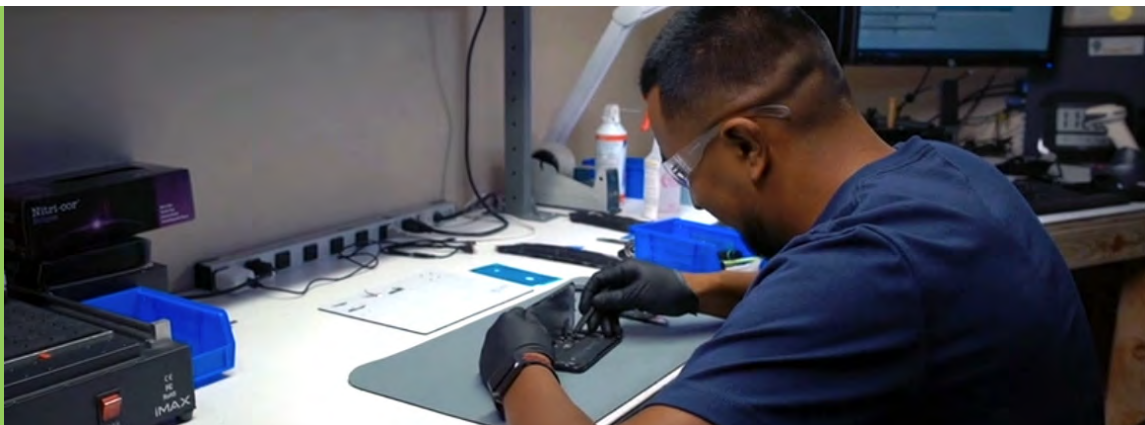
IT INVESTMENT PREDICTIONS

IT DEVICE INVESTMENTS ARE PREDICTED TO



IN 2023*

**Based on Cascade survey results*



HARDWARE TRENDS

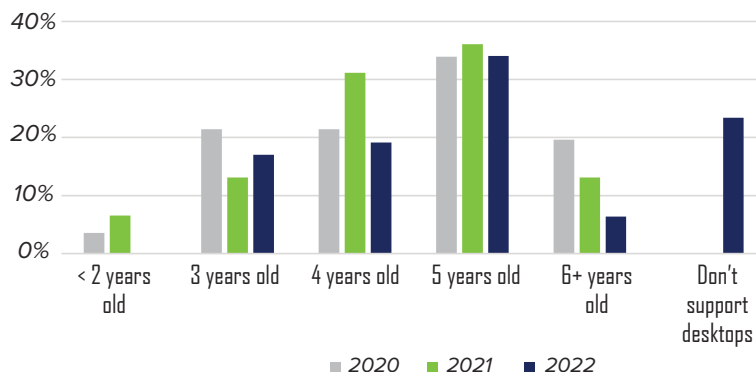
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DESKTOP TRENDS

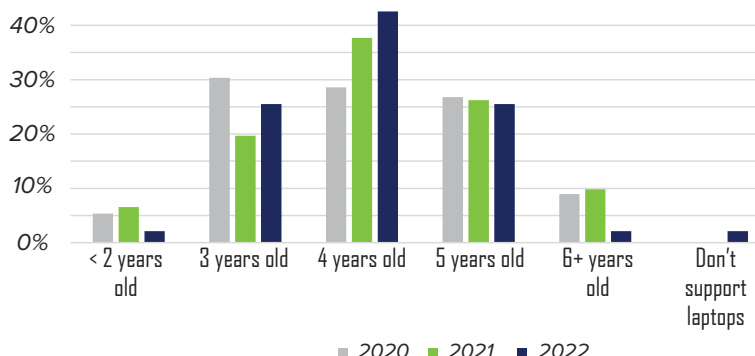


Going into 2023, a significant number of organizations (34%) plan to retire desktops at approximately 5 years old; which is in line with our past 2 years of data. There were some shifts in the 2-4 year old categories compared to last year. We noticed a 4% increase in the number of organizations retiring desktops at the 3 year mark, and a more significant 12% decrease in retirements at 4 years of age.

For this year's survey, we added the option "not applicable; we don't support desktops." This response made up 23% of the total. With no history behind this question, we can not make accurate comparisons to previous years. However, we suspect this response gained a lot of reactions due to the hybrid workplace trend. Some companies may be planning to convert their desktop environment to a more mobile friendly set of workstations, or they're holding onto their desktops longer because there's less of a demand to replace these under-utilized assets. Finally, Cascade is also seeing a significant shift to thin client devices in company retirement activity.



DESKTOP RETIREMENT AGE



LAPTOP RETIREMENT AGE

LAPTOP TRENDS

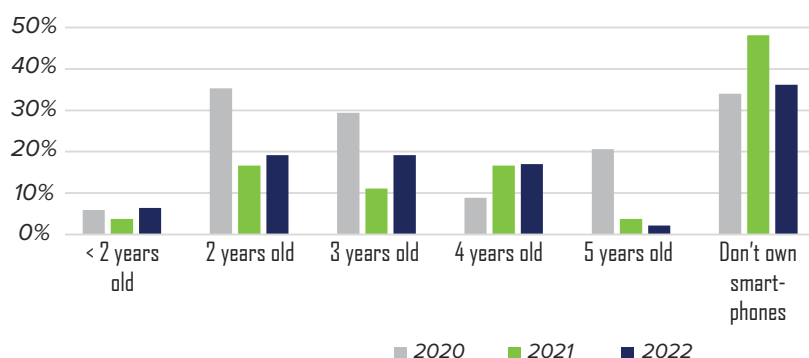


Our survey indicates organizations are retiring their laptops at a slightly earlier age than in the past. While very few are replacing them at less than 2 years of age, there were increases in the number of 3-4 year old laptops entering retirement. Overall, the number of laptops planning to be retired at 4 years old or newer (70%) is slightly higher than the past two years (64%). Only 2% of respondents are holding onto these assets more than 6 years compared to 10% last year.

SMARTPHONE TRENDS



While 36% of respondents indicated their organizations do not own smartphones (instead, many use the "Bring Your Own Device" or BYOD model), the remaining participants indicated a wide range of retirement ages. About 26% reported their retired smartphones will be 2 years old or less; 19% will be 3 years old; and 19% will be 4 years old.



SMARTPHONE RETIREMENT AGE

DATA CENTER MANAGEMENT

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DATA CENTER OPERATIONS

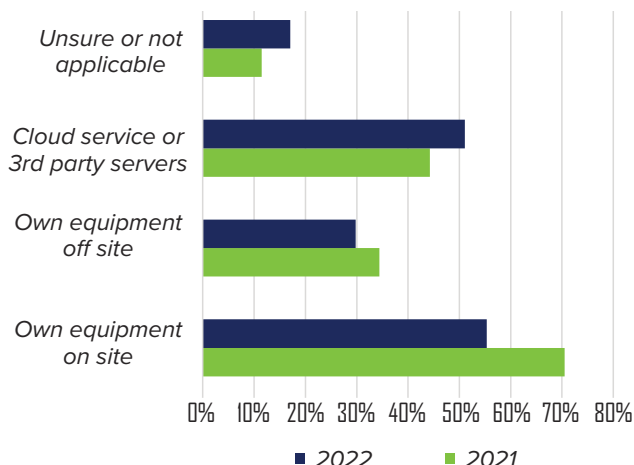


(SELECT ALL THAT APPLY)

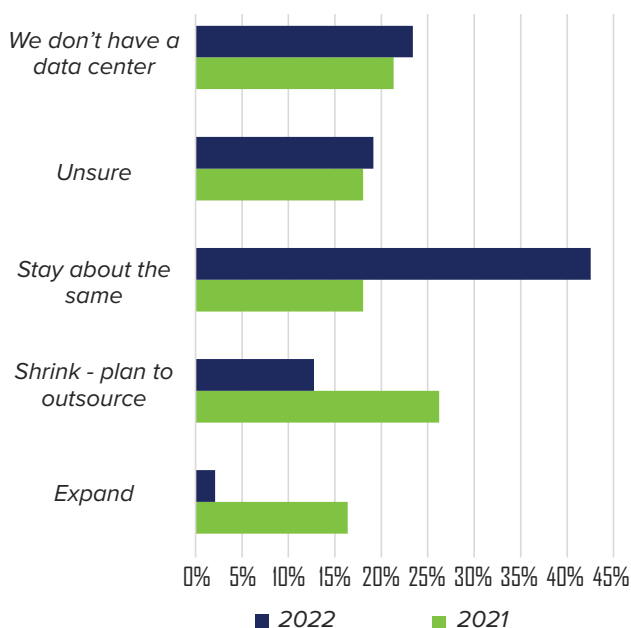


For the past few years, respondents consistently report they maintain both internal data centers or servers while

relying on cloud services for other applications. This year, over 55% of respondents still indicated they own and manage their own data center or server room. Cloud services are often relied on for backups and third-party hosted applications. In addition, 30% of respondents operate data center equipment in co-located facilities.



TYPES OF DATA CENTERS USED



DATA CENTER GROWTH TRENDS

DATA CENTER TRENDS

In regards to data centers, most organizations are staying the course. The percentage expected to keep their data centers at about the same size increased dramatically this year to 42.6%, compared to 18.0% last year. In contrast, a much smaller percentage of companies predict they'll expand their owned data center operations in 2023 (2.1% versus 16.4% last year). Meanwhile, the percentage of organizations that expect to shrink their internal data centers came in at 12.8% compared to 26.2% last year.

METHODS USED INTERNALLY TO CONTROL OR DESTROY DATA PRIOR TO SENDING TO ITAD PROVIDER

(SELECT ALL THAT APPLY)

We don't destroy/control data internally, we rely on a 3rd party	53.2%
Encrypt drives	31.9%
Format drives before disposal	23.4%
Place in secure bin prior to 3rd party destruction ..	17.0%
Wipe using free software (DBAN).....	14.9%
3-pass DoD software data wipe.....	12.8%
Drill through the drive	8.5%
Punch through the drive with pneumatic press	6.4%
Shred the drive	6.4%

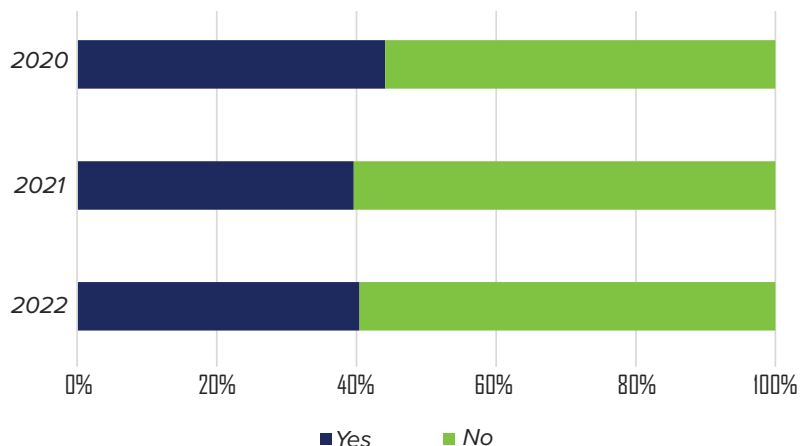
NIST 800-88 software data wipe	4.3%
Hit the drive with a hammer	4.3%
Use hardware appliance to wipe drives	4.3%
Degauss the drive	2.1%
"Pin" the drive.....	2.1%
Computrace - persistent tracking software.....	2.1%
Other	1.3%

DATA DESTRUCTION METHODS

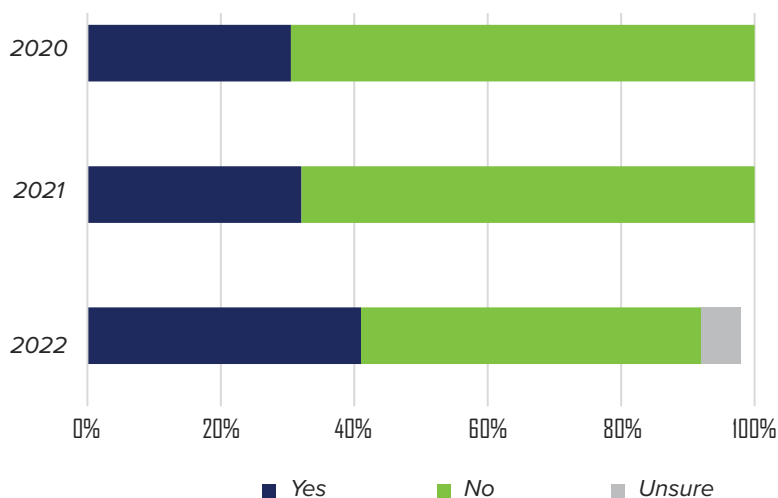
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PHONE AND TABLET DATA DESTRUCTION

In regards to data destruction on mobile devices, the trend remains the same as last year. About 40% of respondents indicate they have an internal process in place to destroy data on smart phones and tablets. The remaining 60% rely on their third-party disposition or trade-in partner to wipe the data from these devices.



MOBILE DEVICE DATA DESTRUCTION



SSD DESTRUCTION

More than 40% of respondents indicated they do not have an internal process to sanitize data from SSDs prior to disposal. Part of the challenge with SSDs is the variation and complexity to fully sanitize these devices and ensure the device has been cleared of all data. Companies are turning to their disposition partner for assistance.

SSD DATA DESTRUCTION



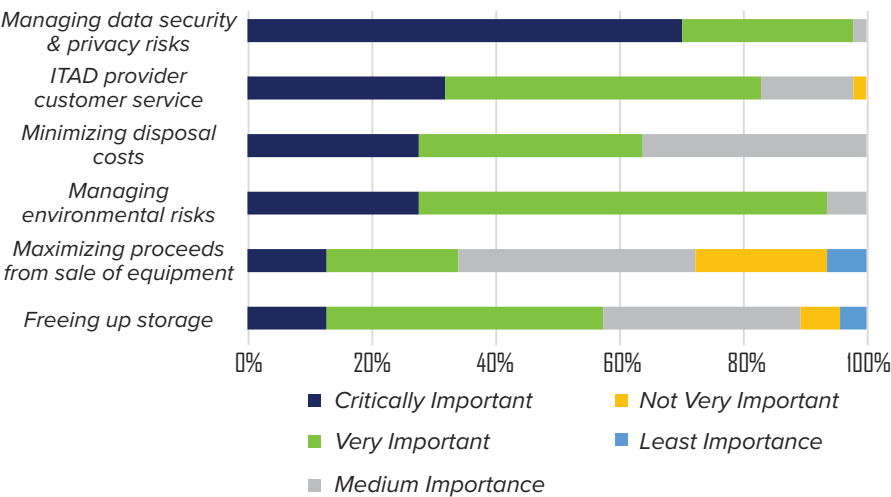
Recognized industry standard
for media destruction:
**NIST 800-88 GUIDELINES
FOR MEDIA SANITIZATION**

IT ASSET DISPOSAL

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CRITERIA CONSIDERED WHEN DISPOSING OF IT ASSETS

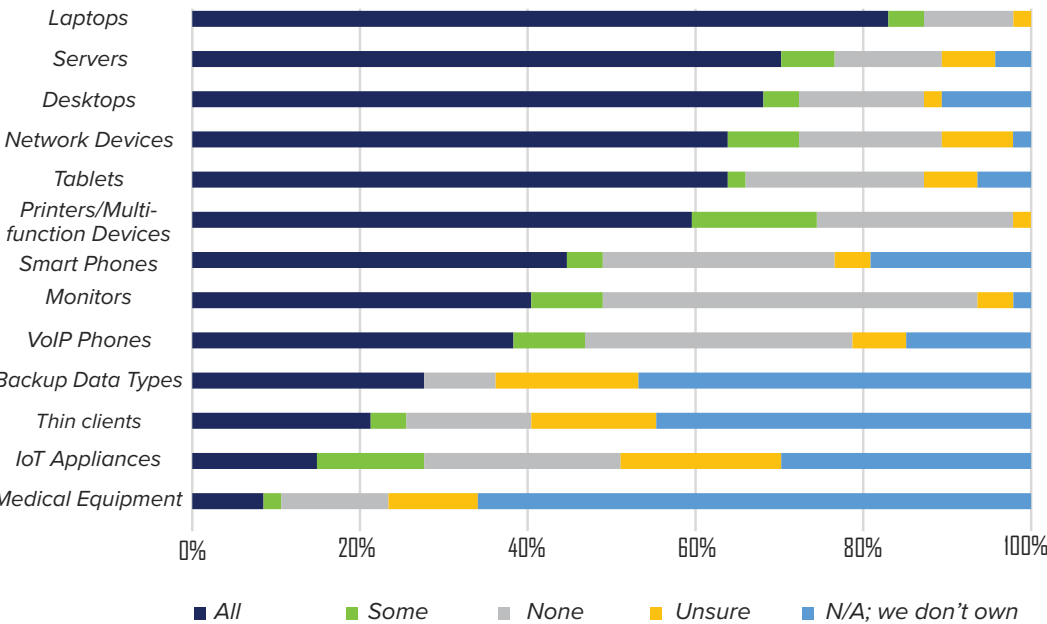
Each year we ask a question about what influences a company's decision-making process when retiring their IT assets. All criteria lined up the same as last year. Managing data security and privacy risk is the top priority. The level of customer satisfaction provided by the ITAD provider and implementing methods that minimize environmental risks are also critically and very important factors.



ASSET DISPOSAL CRITERIA

ASSETS TRACKED

Tracking assets through their final disposition is the best liability protection for an organization. It offers proof that a device, and the data stored on it, was properly managed throughout its life cycle. In our annual question on this topic, organizations rated their tracked assets in the same order of priority as last year. Laptops and servers remained at the top of the list. What continues to be surprising is that many respondents indicate they do not track any of their mobile devices: 21% of tablets and 28% of smart phones. Since these devices tend to hold good value and retain customer data, tracking these assets should be considered.



ASSET TRACKING

TRACKED ASSETS

83%
LAPTOP COMPUTERS

70%
SERVERS

68%
DESKTOPS

CERTIFICATIONS

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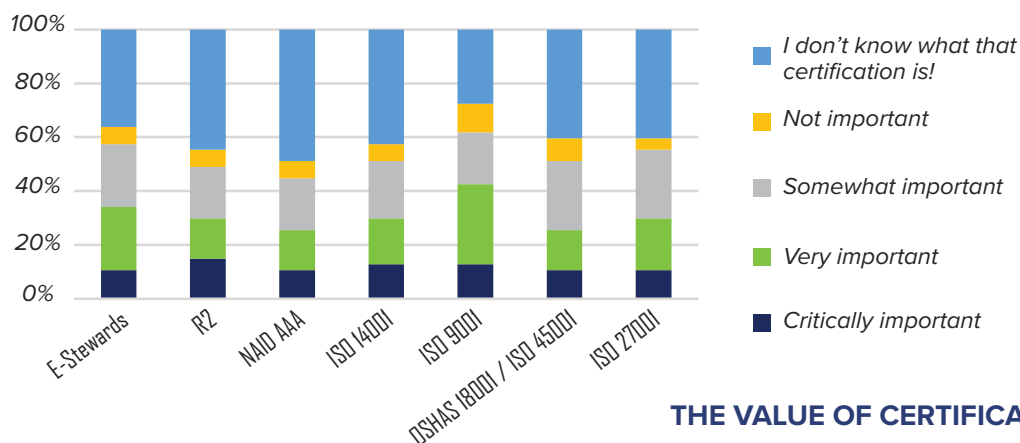
THE VALUE OF INDUSTRY CERTIFICATIONS

As identified in our survey, data security is a top concern for organizations that are disposing of their IT assets. It's easy to understand why—a data breach can cost a company millions of dollars in fines, litigation fees, and reputational damage.

Many organizations value a partnership with an ITAD provider that offers reliable service and processes. They're also looking for environmentally responsible solutions. One way to help identify whether an ITAD provider meets expectations is to review their certifications. An ITAD provider who is regularly evaluated by a third party on a stringent set of criteria is more

likely to match your security, sustainability, and service values than a tech recycler who self-attests to a list of claims.

In our survey, we asked respondents how important it is for your IT Asset Disposition provider to maintain these industry certifications. In general, most organizations place at least some importance on them. However, we noted a large percentage of respondents do not know what each certification means. To help in this effort, we offered brief descriptions of each certification below.



CERTIFICATION TYPES



The Basel Action Network (BAN) introduced e-Stewards certification in 2009 with the goal of improving recyclers adherence to the Basel Convention, a UN treaty governing hazardous waste movements. Certified providers are audited annually by third parties.



This ISO standard is based on several quality management principles that include a strong customer focus, the motivation and implication of top management, a process approach and continual improvement. Audits and certification are issued by a third party.



Developed by the R2 Technical Advisory Committee (TAC) to establish responsible recycling of electronics globally. Providers are accredited through a third-party certification body.



ISO 45001 certification is for organizations that want to focus on improving occupational health and safety, eliminating hazards, minimizing risks, and addressing OH&S nonconformities. Certification is issued by a third party.



The National Institute for Information Destruction provides certification for member companies that provide information destruction services. Certified providers must comply with all data protection laws through scheduled and surprise audits.



Standards for ISO 27001 specify requirements for establishing, implementing, maintaining, and continually improving the organization's information security management system. A third party provides certification.



The International Organization for Standardization (ISO) developed and published international standards for organizations who seek to manage their environmental responsibilities and contribute to sustainability. Certification is issued by a third party.

RESALE TRENDS

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RESALE VALUES

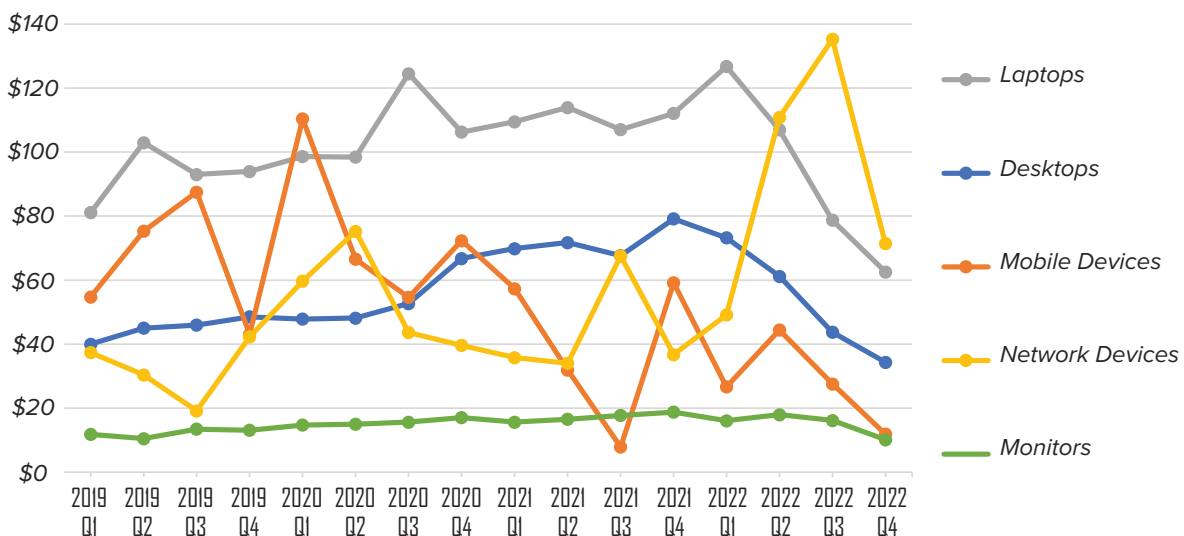
In cases where the client allows reuse of their retired equipment, we strive to maximize the items' revenue. We work with the customer to deploy the best refurbishing methods for their devices and then remarket the items via online, local, dealer, and international channels. Devices come from a wide range of industries and are typically 3 - 5 years old. The prices shown in this graph represent the average cash price paid to Cascade after all fees are deducted from the sale. We share a percentage of the resale value with our client.

AVERAGE RESALE VALUE BY DEVICE IN 2022

DESKTOPS	SERVERS
\$53.67	\$199.17
LAPTOPS	MOBILE DEVICE
\$93.96	\$22.18

After a couple of years of steady increases in the resale market, we are now experiencing a drop to pre-pandemic prices. The average price paid for refurbished desktops, laptops, servers, and mobile devices has decreased an average of 19%; mobile device resale prices dropped 25%.

Companies with an asset management process that minimize damage to devices, maintain a defined retirement schedule, and promote equipment reuse, can have an ITAD program that more than pays for itself by reselling their retired IT assets.



AVERAGE RESALE VALUES OF RETIRED ASSETS

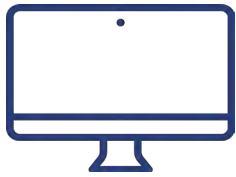


We market & sell high-quality refurbished assets on **CASCADE MARKETPLACE & eBay**. Devices are inspected, tested, and refurbished for a new life for use by families, students, businesses or non-profits.

Visit MARKET.CASCADE-ASSETS.COM

RESALE TRENDS

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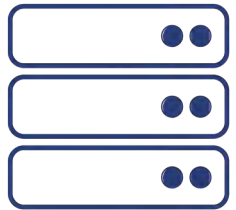
DESKTOPS

A desktop's resale value is lower than laptops, and their values are dropping at a faster rate (25.6%). This dip in demand matches that of new devices. More companies are purchasing mobile solutions such as laptops to meet the demands of a hybrid workplace.



LAPTOPS

Laptop values have decreased 15% over the past year, although their average price at the end of 2022 is down by almost 45% compared to one year ago. During the pandemic, the demand for Cascade's refurbished laptops grew, with the average price peaking at \$126 in the first quarter of 2021 (the overall average price for 2021 was \$110). This past year's average price came in at \$93.96 with prices averaging \$62.58 in the fourth quarter.



SERVERS

The category of refurbished devices with the highest average value is servers. The average resale value of Cascade refurbished servers was almost \$200 in 2022. Over the past year, this resale value decreased by about 17%.



MOBILE DEVICES

The trend for smart phones and tablets has seen its ups and downs in recent years. This year's average price of \$22.18 dropped over 43% compared to last year's average.

A TRUSTED PARTNER FOR ALL YOUR IT ASSET AND MOBILE DISPOSITION NEEDS



SECURITY



SUSTAINABILITY



SAVINGS



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