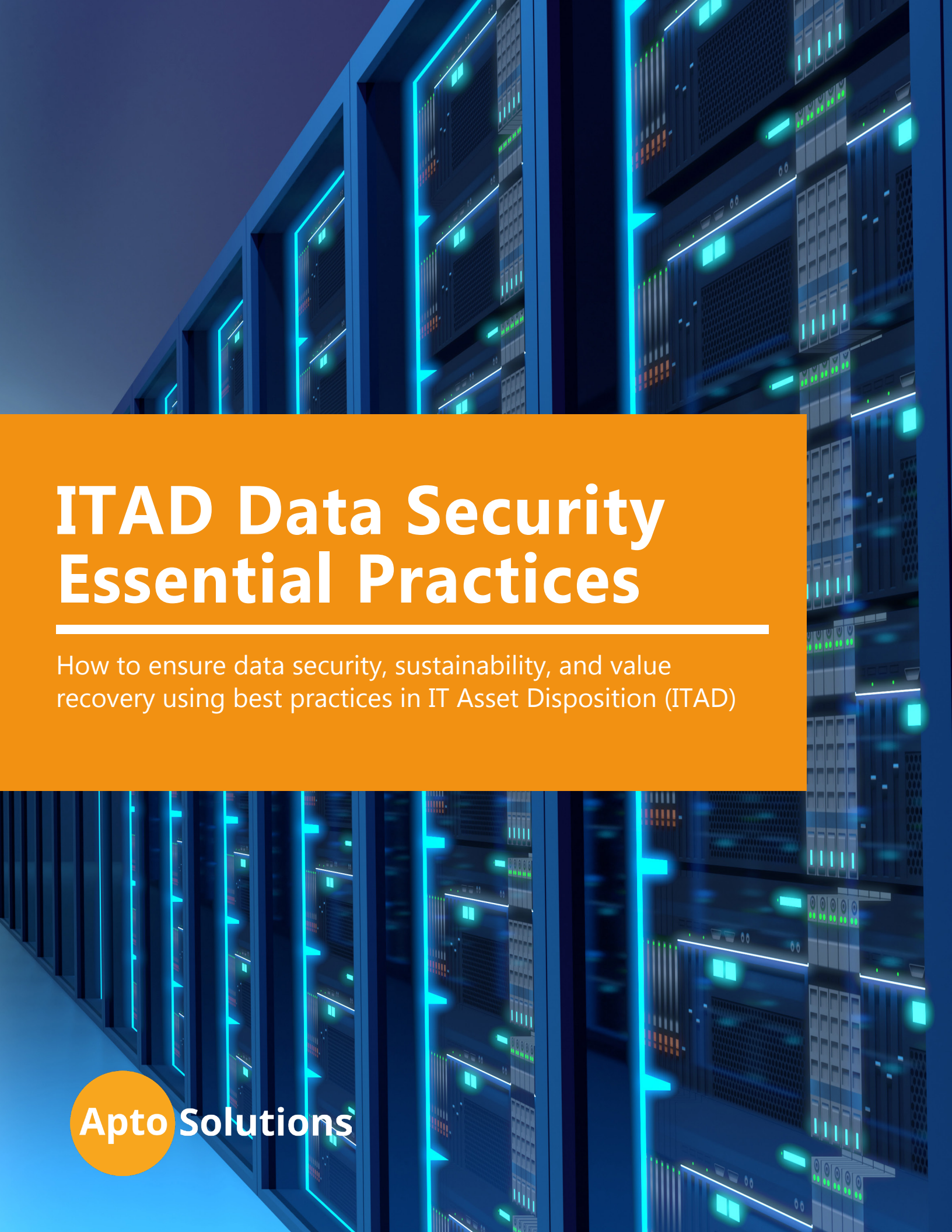
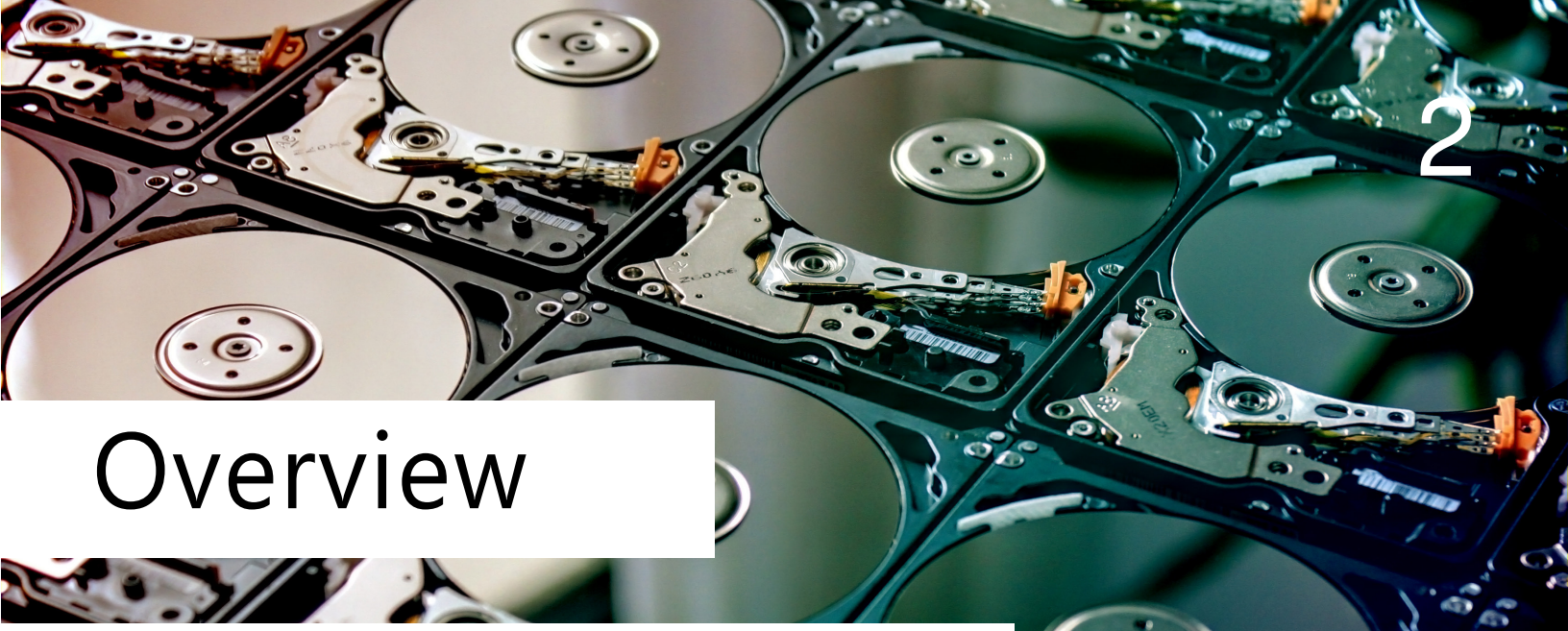


ITAD Data Security Essential Practices

How to ensure data security, sustainability, and value recovery using best practices in IT Asset Disposition (ITAD)

Apto Solutions



Overview

For the 12th year in a row, the United States holds the title for the highest cost of a data breach at $9.44 million - $5 million more than the global average! IBM's Cost of a Data Breach report details how costs surged 13% from 2020 to 2022.[1] What's contributing to this increase and what can organizations do to keep their data secure?

This paper explores how modern data threats can be offset by applying best practices in IT Asset Disposition (ITAD). Adherence to compliance regulations and understanding the e-waste laws that define how your IT equipment is disposed can make the difference between keeping your assets secure or revealing sensitive information.

On average, it takes 280 days to detect that a breach has occurred. This timeframe is significant when you factor in the average lifespan of a computer is only 3-5 years. When it comes to protecting your data, you have firewalls, security patches and virus detection in place. But what measures are in place for asset disposition?

When electronic assets are taken out of service, they usually end up piled in a storage room or deposited at a loading dock – unattended with hard drives still intact. *This is where the threat of a data breach lurks!*

Working with a trusted ITAD partner that can demonstrate secure chain of custody practices and proof that your data is successfully erased, will guarantee that your organization retains control over sensitive data and is in compliance with the laws and regulations governing e-waste.

1 Cost of a Data Breach Report | IBM

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The Long Reach of IT Assets and Their Disposition

Data breaches gained widespread attention as businesses of all sizes became increasingly reliant on digital data, cloud computing, and workforce mobility. Increased digitization, a global pandemic, inflation, and supply chain disruptions have left companies struggling to make decisions about how to run many aspects of their operations.

As you create and store more sensitive data, this data is only as secure as your ITAD process. Data and IT assets are still under your watch until they are securely and properly disposed of. This makes the care of ownership throughout the process of asset disposition a top priority.

> **1.145 Trillion MB of data are created in a day**

Considering that the majority of the world's data has been generated within the last two years alone, it's astonishing to think how much data is created in one day. What will those numbers look like in five or ten years?

Given how much data is on the Internet, the actual amount of data used is difficult to calculate. But if we're talking about how much data is created every day, the current estimate stands at 1.145 trillion MB per day. And by the end of 2022, it is predicted that humans will produce and consume about 94 zettabytes of data![2]

Dealing with the data explosion and the systems that hold data has far-reaching effects and include the following:

Data Security and Privacy
New technologies including Cloud computing and Internet of Things (IoT)

2 How Much Data is Created Every Day in 2022? | Techjury.net

devices are offering new ways for cyber criminals to attack our IT systems and our businesses.

Environmental and Data Compliance Requirements
Various data protection acts and legislative frameworks place responsibility on a business to manage both data and e-waste across the entire lifecycle.

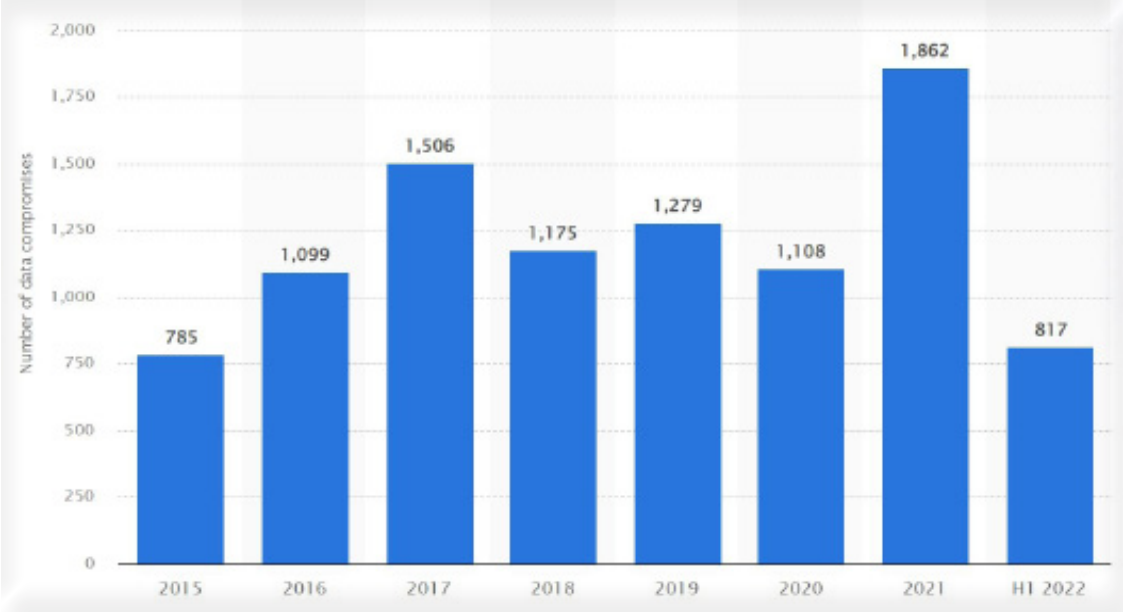
Value Recovery
How to recover value from expensive IT assets, whilst balancing the security and environmental challenges of ITAD.

IT ASSETS, THE EXTENDED ENTERPRISE PERIMETER, AND THE SECURITY CHALLENGE

In the early days of computing, the data-security perimeter and the physical security perimeter were one and the same. Access to data implied access to the actual computer or storage media. Today we add mobility, smart phones, tablets, and the trend towards employees using their own devices or working remotely. These assets are part of the expanded enterprise perimeter, which as a company grows and assets change, becomes harder to manage.

Dealing with this perimeter, during disposition, adds another layer to data lifecycle management making the visibility of our IT assets more challenging. The numbers represented in the table below reflect the challenges of protecting data in an ever-expanding perimeter.

In 2021, there were almost 294 million individuals victimized by cyber data violations such as breaches, data exposures, and data leaks in the United States. In the first half of 2022, there were 817 cases of data compromise compared to 785 incidents in 2015.[3] Looking at these numbers, that's 4.5 compromised records lost every day!



3 Annual number of data compromises in the United States | Statista.com

LOSING CONTROL OF DATA AND THE REPERCUSSIONS

Lost or stolen data has a number of serious repercussions for an organization.

Share Price Drops

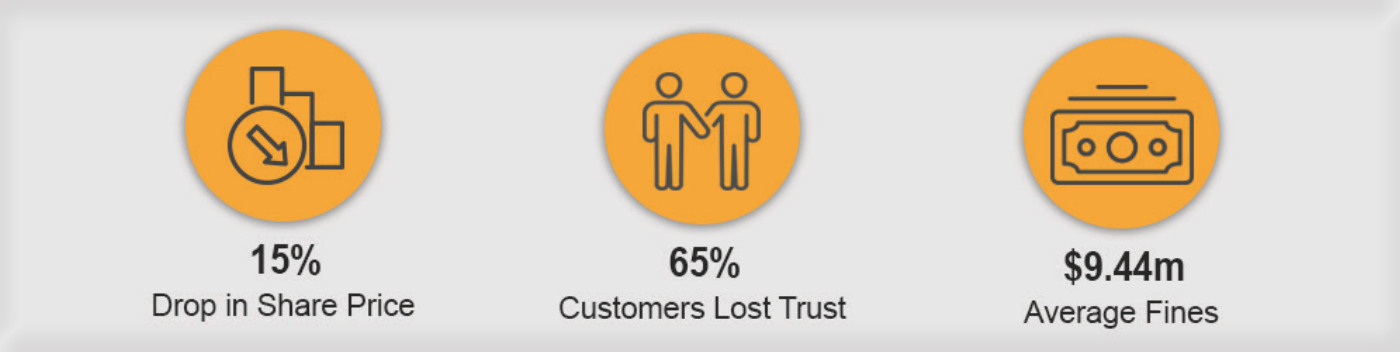
In the long term, breached companies underperformed the market. After 1 year, share prices fell -8.6%, and underperformed the NASDAQ by -8.6%. After 2 years, average share price fell -11.3%, and underperformed the NASDAQ by -11.9%. And after three years, average share price is down by -15.6% and down against the NASDAQ by -15.6%.[4]

Reputation Damage

The Ponemon Institute Data Breach Impact study found that 65% of data breach victims lost trust in an organization due to the breach.[5]

Compliance Fines

As of 2022, the average cost of a data breach in the United States amounted to $9.44 million, up from $9.05 million the previous year. The global average cost per data breach was $4.35 million U.S. dollars in 2022.[6]



Along with having security measures in place for working IT Assets, we also need to protect assets as they move into end-of-life disposition. This is where most organizations find security gaps and where a dedicated ITAD vendor can help optimize your overall IT security, privacy, and compliance strategy.

The next section will explore three key areas in data security that will help defend against the risks and complexities in your IT asset lifecycle.

1. ITAD and Data Security
2. ITAD and Compliance
3. ITAD and Value Recovery

4 How data breaches affect stock market share prices | Comparitech.com
5 How Can Data Breaches Affect Brand and Reputation | Martechvibe.com
6 Average cost of a data breach in the United States from 2006 to 2022 | Statista.com

Three Key Areas to Apply Best Practices in ITAD

Proper data destruction is the cornerstone to data protection. Applying best practices in the three following areas can make the difference between keeping your assets secure or revealing sensitive information.

1. ITAD and Data Security

END-OF-LIFE ASSET POLICIES, RETIRING STRATEGY, AND DATA ERASURE

The Policy: The most important part of building an ITAD policy is to develop a framework and a process for managing retired assets that ensures a secure chain of custody – an auditable paper trail that establishes a record of the control, transfer, and final disposition of all hardware and magnetic media. Secure chain of custody is a critical disposition success factor because it ensures compliance, reduces risk, and facilitates better cost management.

When it comes to remaining compliant with data disposal laws, the devil is in the details. A sound ITAD policy ensures that you follow NIST 800-88 recommendations to stay in compliance with regulations like the General Data Protection Regulation (GDPR), state specific laws like the California Consumer Privacy Act (CCPA), and industry-specific laws such as the Health Insurance Portability and Accountability Act (HIPAA). *Detailed information about each law mentioned above on pages 8 through 10.*

Data Erasure Using Technology-Enabled ITAD: To create an ITAD policy that reflects your IT Assets you'll need to map your data to assets to get a holistic picture of inventory to ensure all data is properly erased. You'll need to

know what assets and data you are working with. This may include data that requires regular lifecycle destruction, not just in IT asset end-of-life scenarios.

Once mapped, the right tools to do the job can make a large-scale data destruction project an easier task. Technology-enabled ITAD automates the erasure process across multiple storage types. However, the job of data destruction is best left to professionally accredited organizations. These vendors have the experience to accommodate mass-scale data erasure and have the certifications in place to meet data protection regulations.

> **Proper data destruction is the cornerstone to data protection**

Traceability and Risk Management: Chain of Custody controls ensure all assets are securely managed and tracked through each step of the ITAD process. Comprehensive controls facilitate detailed reporting and provide audit and tracking details to prove data sanitization and legislative environmental compliance.

Chain-of-custody is evidence that an ITAD vendor has physical possession of a particular asset. This evidence is the foundation for indemnification. Suppose an asset is found in a dump or sold on eBay with data, chain-of-custody will enable you to hold the disposal vendor accountable.

Chain-of-custody should follow a well-documented process that uses tags such as a barcode, or similar, to monitor and record the chain of movement from client site to redeployment, sales and/or recycling. It should also be flexible enough to apply granular levels of control based on asset type. Classification of assets will then determine the level of security needed.

A well-implemented chain-of-custody will remove any gaps in the system where data can potentially be exposed. ITAD vendors with ISO 9001:2015 certification can show that they meet the quality management standards needed to deliver a robust chain-of-custody.

2. ITAD and Compliance

MEETING THE NEEDS OF COMPLIANCE AND STANDARDS

Compliance and Regulatory Frameworks

Data protection laws and compliance with data regulations add layers of complexity to the ITAD process. As personal identifying information is collected by businesses and government entities, they are required to have processes in place to ensure personally identifiable information (PII) is protected.

Currently, 35 states in the U.S. and Puerto Rico have data disposal laws. In addition, certain business types, such as consumer reporting companies, must comply with the Federal Trade Commission's Disposal Rule.[7] It is also worth noting that all 50 U.S. states, as well as District of Columbia, Guam, Puerto Rico, and the U.S. Virgin Islands, have data breach notification laws.[8]

Compliance is not just about data protection, though. As reported in Global Banking & Finance Review, the rise of collective social consciousness, coupled with the desire to minimize the environmental impact of industry manufacturing practices have resulted in environmental, social, and governance (ESG) factors rising to the top of corporate agendas.[9]

This awareness has sparked a shift toward standardized ESG disclosures for public companies and are supported by new regulations noted in the Spring 2021 Unified Agenda of Regulatory and Deregulatory Actions.[10]

Below we look at a few of the regulations that impact your ITAD policy in relation to data protection and e-waste disposal.

Data Protection

NIST 800-88: Since the release of NIST 800-88r1 Guidelines for Media Sanitization in December 2014, most companies who put a priority on data security have updated their data sanitization requirements from DoD

7 Data Disposal Laws | NCLS.org
8 Security Breach Notification Laws | NCLS.org
9 3 Steps to Comply with New 2021 ESG Regulatory Actions | AptoSoutions.com
10 SEC Announces Annual Regulatory Agenda | SEC.gov

5220.22-m, to NIST 800-88. The DoD 5220.22-m sanitization method includes 3 passes – 1 to overwrite with zeros, 1 to overwrite with ones, 1 to overwrite with random pattern, and a final verification pass. And for older platter drives, doing a multi-pass wipe can create unnecessary failures due to drive degradation, so the single pass/purge or clear has become a preferred method to sanitize. From a technology and reusability standpoint, using the recommendations in NIST 800-88 instead of the methods in DoD 5220.22-m is seen as the best practice in ITAD.[11]

General Data Protection Regulation (GDPR): The toughest privacy and security law in the world. Though it was drafted and passed by the European Union (EU), it imposes obligations onto organizations anywhere, so long as they target or collect data related to people in the EU. The regulation was put into effect May 2018 and levies harsh fines against those who violate its privacy and security standards, with penalties reaching into the tens of millions of dollars.

"Compliance is not just about data protection, ESG factors are rising to the top of corporate agendas

With the GDPR, Europe is signaling its firm stance on data privacy and security at a time when more people are entrusting their personal data with cloud services and breaches are a daily occurrence. The regulation itself is large, far-reaching, and light on specifics, making GDPR compliance a daunting prospect, particularly for small and medium-sized enterprises (SMEs).[12]

California Consumer Privacy Act (CCPA): The CCPA was enacted into law September 2018 and gives consumers more control over the personal information that businesses collect about them and provide guidance on how to implement the law.[13]

State of Delaware Data Breach Law: When a commercial entity no longer wishes to retain personal identifying information in its custody, the new law requires that it destroy the information using a method that makes it entirely unreadable or indecipherable through any means including shredding or erasing the information.

The law, established in January 2015, is designed to promote the security and confidentiality of a consumer's information, protect against threats or hazards to that security, and protect against unauthorized access or use of the information.[14]

11 Guidelines for Media Sanitization | CSRC.NIST.gov
12 What is GDPR, the EU's new data protection law? | GDPR.eu
13 California Consumer Privacy Act | OAG.ca.gov
14 Destroy Securely: Delaware Adopts New Data Destruction Law | hldataprotection.com

Electronic Waste Disposal Laws: The first state to pass an e-recycling law in the US was California in 2003. Since then, 27 additional states and the District of Columbia have followed suit. In many cities, take-back programs are offered by private companies, nonprofits, and/or local governments – but that leaves 22 states with no statewide laws.[15]

For European countries, the 2003 Waste Electrical and Electronic Equipment (WEEE) Directive was updated in 2012. This wide-ranging improved recycling commitment and has stringent documentation requirements for any electronic waste disposed of in an EU state.[16]

Internationally, the EU has tackled growing e-waste with the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal. Effective since 1992, the law prohibits the export of e-waste from developed to developing countries.[17]

Certification Standards and ITAD Vendors

Certifications are essential in ITAD as they ensure confidence that your partner is running their organizations to the highest industry standards.

The e-Stewards® Standard supports upholding a safe, ethical, and globally responsible standard for e-waste recycling and refurbishment. Complying with the Basel Convention, e-Stewards is the most stringent standard used to ensure e-waste doesn't end up being exported to non-developed countries (Only 6% of ITAD companies have this certification).

The International Secure Information Governance & Management Association™ (i-SIGMA®) is the industry trade association for secure data destruction and information service providers who enforce and maintain the NAID AAA® certification. Using a NAID AAA certified company to perform your data erasure will ensure that it is done correctly.

NSF International Strategic Registrations (NSF-ISR) provides globally recognized certifications, including ISO 14001, ISO 9001, and ISO 45001. They are a highly respected certification body that can certify companies to all the standards listed above. NSF's standards in Environmental Management indicates the ITAD vendor has the right procedures in place for safe disposal with reduced environmental impact.

15 The Evolution of E-Waste Laws and Regulations |Sourcetoday.com
16 Regulations: Waste Electrical and Electronic Equipment (WEEE) | Gov.uk
17 Basel Convention Overview | Basel.int

3. ITAD and Value Recovery

PULLING COMPLIANCE, DATA PROTECTION, AND VALUE RECOVERY TOGETHER

In a post COVID-19 business landscape, the ITAD market is expected to reach $31.8 billion by 2032, up from $15.6 billion as we close out 2022 – expanding at a CAGR of 7.4%.18 This growth can be accredited to factors such as strict data security compliance, new environmental regulations, storing assets in inventory for remarketing to maximize asset value recovery, and the growing usage of electronic devices such as mobile phones, laptops, and tablets within the enterprise sector.

If you decide to resell your equipment, you'll need a clear understanding of current equipment values. And you should feel confident that your ITAD partner will perform compliant data disposal, with evidence, across the entire disposition process – from recycling, destruction, redeployment, or receipt to final sale.

In the preceding sections, we noted the impact that unsecured data destruction and non-adherence to e-waste compliance laws can have. Having a fail-safe process in place – a comprehensive chain-of-custody system, will provide the documentation and a peace of mind knowing that disposition has been achieved properly.

Choosing a partner with the right certifications, who understands e-waste laws and regulations across borders, and adheres to standards, is key to maximizing value recovery and ensuring secure, compliant hardware disposition.

"The ITAD market is expected to reach $31.8 Billion by 2032

18 Global ITAD market up 7.4% over next decade | itassetmanagement.net

Conclusion

Data breach stories have flooded social media and news feeds for years. Articles about the latest hack or privacy violation is starting to become the norm with over 53 million individuals affected by data compromises in the first half of 2022 alone![19]

The repercussions of a data breach can be far-reaching, impacting an organization not only financially, but in terms of reputation too. Along with having security measures in place for working IT Assets, you need to protect assets as they move into their end-of-life disposition. In the world of ITAD, *out of sight cannot be out of mind* – at least until you can prove disposal has been completed properly.

Working with a trusted ITAD partner who can demonstrate secure chain of custody practices and proof that sensitive data is erased, will guarantee that your organization retains control over sensitive data and is in compliance with the laws and regulations governing e-waste.

Like with any business partnership, when looking for an ITAD provider, the decision shouldn't be made lightly. As this guide demonstrates, disposing of IT assets properly is critical to data security. Chain of custody, environmental stewardship, and overall security are all crucial to a successful ITAD program. Even more so if you're handling government equipment, or working with a corporate entity with high data security requirements.

Having an ITAD vendor that employs e-Stewards, ISO 9001, and i-SIGMA standards, will guarantee that not only your e-waste will be recycled, and fair value retrieved, but that sensitive and confidential data will not be exposed in the process.

19 Annual number of data compromises and individuals impacted in the US first half 2022 | Statistica.com

ABOUT APTO SOLUTIONS

As an industry leader and innovator in the IT Asset Disposition (ITAD) industry, Apto has become an established authority in minimizing data, environmental, and financial risks for clients with various industry background. Since 2001, our passion for reducing clients' environmental footprint has driven our spirit of innovation, allowing our partners to discover and embrace the circular economy. Our team works diligently to consistently maintain the highest ITAD standards and certifications attainable in the industry.

Apto Solutions