



White Paper

Effective Test Data Management

For the Financial Services Industry

Comprehensive test data management empowers financial institutions to maximize the value of their greatest asset: data. This enables them to unleash the full potential of digital innovation.

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We live in a data driven world.

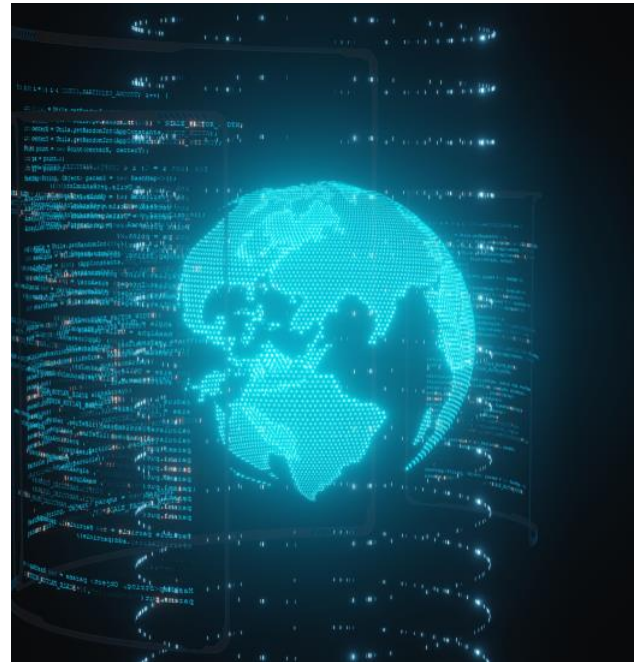
According to the World Economic Forum, experts predicted the digital universe would encompass 44 zettabytes (twenty-one zeros) by 2020—40 times more bytes than stars in the observable universe.¹ Data is critical across every industry vertical and is the center of the 4th industrial revolution.

However, data's biggest impact, both in terms of risk and reward, is in the financial industry. Financial services companies are the largest technology services users, and the need for data to offer clients personalized services at lower costs continues to grow.

Data Management is pivotal to banks' and credit unions' competitive footing in an increasingly virtual, AI-driven marketplace.

Boston Consulting Group noted an ongoing increase in consumers migrating to digital financial services. According to a REBEX Pulse study, between February and June 2020, mobile banking usage grew 34%, while banking at branches declined by 12%.² Increasingly, younger customers are transitioning to all-digital banking, along with a significant share of older account holders.

At the same time, ever more complex regulatory requirements and increasing cyber threats create new challenges to securing digital transactions. Digital transformation is pivotal in the emerging financial services market, and an effective test data management system is critical to survival.



¹ World Economic Forum. "How much data is generated each day?" 2019. www.weforum.org/agenda/2019/04/how-much-data-is-generated-each-day-cf4bddf29f/

² Boston Consulting Group. "The Sun is Setting on Traditional Banking." 2020. www.bcg.com/publications/2020/bionic-banking-may-be-the-future-of-banking

Data management is essential.

Data Management refers to the set of disciplines, including safe storage and active protection from external and internal threats, that allow an organization to leverage their data as a valuable resource.

Test data management is key to a comprehensive data management system and critical to your digital future, enabling new systems development and testing while shielding valuable information from exposure.

Securing data affects the bottom line because breaches have expensive consequences. In a 2020 study, IBM Security valued the average cost of a data breach at \$8.64 million in the US and \$5.85 million for the financial sector globally.³ Compromised personally identifiable information (PII) was the costliest type of breach, representing 80% of incidents.

Lost business is a particularly critical issue for the financial industry at 40% of total breach costs. Identified causes of data exposure included 52% from malicious attacks, 25% from system glitches, and 23% from human error.

While a data management system addresses shielding sensitive information against everyday threats, test data management impacts software testing and systems launch and operation. Rigorous testing against realistic and accurate data mitigates serious problems after software deployment. Yet, software development and test teams must find a way to reliably guard against data theft or exposure.

In addition to other threats, organizations regulated by privacy or information compliance laws must find a way to protect client data while still making it available for analytics and realistic systems testing.

\$8.64M

Average cost of a data breach in the US with 40% of costs stemming from lost business

IBM Security – 2020



³ IBM. Cost of a Data Breach Report 2020. www.ibm.com/downloads/cas/RZAX14GX

Data rules and regulations.

As data protection regulations expand, the compliance burden for these new and shifting rules grows, particularly for the financial services industry.

Consumer privacy regulatory mandates vary by country, and from state to state within the U.S., leading to an overlapping tapestry of rules and restrictions. Currently, two states have passed consumer privacy legislation while a further 11 are considering bills.

Significant regulatory mandates affecting data management include:

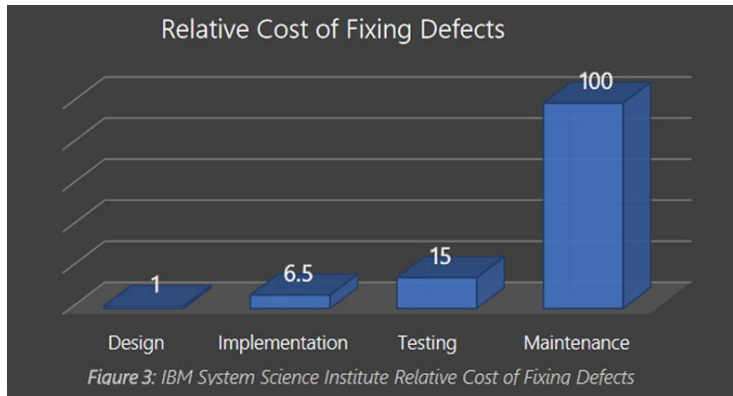
- CCPA – California Consumer Protection Act – CA
- CDPA – Virginia Consumer Data Protection Act – VA
- GDPR – General Data Protection Regulation – EU
- Gramm-Leach-Bliley Act – Financial services modernization – US
- NYDFS – New York department of financial services – NY and Global
- PSD2 – Payment services directive – EU
- PCI-DSS – Payment card data security – Global
- WaPA – Washington Privacy Act – WA

Violating any of these overlapping consumer data privacy mandates can be both costly and time consuming, resulting in harm to both your bottom line and reputation.



The hidden value of realistic data.

IBM's System Science Institute studies have documented the high cost of defects found after software releases. Common understanding put the cost increase at each stage of development at a factor of 10. The IBM study then confirmed that defects discovered after release are 100 times more expensive to fix than those identified during design and development.



Pressure to contain development costs and ensure a successful launch demand optimal resources for each stage, yet developers frequently cite a lack of realistic data as a roadblock to efficient design and testing.

In addition to data quality, database size is a vital, and often overlooked, piece of effective test data management. An application that performs well with a small dataset in testing environments may freeze, glitch, or suffer a collapse under the demands of the full production data.

Effective test data management systems should provide a way to safely use the full size and scope of production data.

100X

Cost increase to fix software defects after release vs. during design and development phases.

IBM System Science Institute

Test data, managed.

A comprehensive test data management plan mitigates compliance and security risks during development and testing while simultaneously allowing you to leverage the full scope of your data assets. Also, it facilitates reliable, better quality software that works at launch while limiting bug fixes and reducing rollbacks.

A data discovery and masking solution is essential to a comprehensive test data management plan, enabling data security while retaining field properties critical to accurate, reliable systems testing.

Data masking tools rapidly protect sensitive information across vast, complex databases to facilitate thorough, accurate and reliable testing.

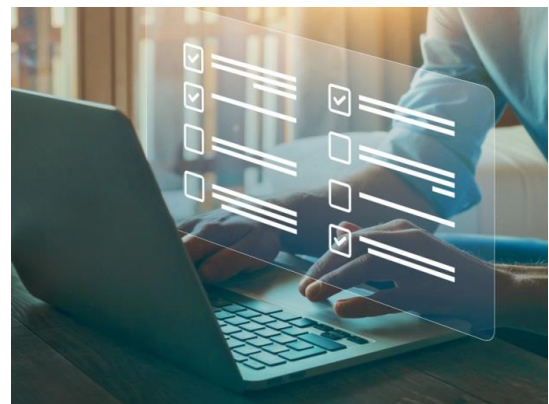
Testing new programs and functions, or patches and upgrades, does not require access to actual production data. However, effective applications and systems testing against real-world performance expectations necessitates data with the same scope, complexity, and volume the software will need to manage at go-live.

Anonymized data is protected from insider threats, accidental exposure, and hacking because it replaces sensitive information with realistic but fictional values. So, a name is replaced with another name, a social security number with a different nine-digit number, and an address with a false, but realistic, location.

All masked information still functions like the original data so you, or your fintech partner's, QA team can accurately test system functionality using complex, full scope data that looks and acts like the real thing.

>\$150B

Annual cost of
poor-quality
software in the US



Empowering rapid, accurate testing.

Accutive Security empowers banks and credit unions to solve their software testing and data protection challenges with advanced anonymization and pseudonymization techniques recommended by regulatory agencies to meet mandates like CCPA or GDPR.

Accutive Security’s data masking tool, ADM, enables testing against full scale, realistic data while mitigating risks, and is an essential component of your effective test data management plan.

First, ADM identifies sensitive information within your production database and replaces it with anonymized, realistic values. After ADM masks sensitive information, it retains all original properties allowing the data to function like your actual production data, empowering thorough, efficient, and real-world testing while effectively mitigating risk.

Critically, our high-performance data masking tool delivers rapid, large volume anonymization, including masking your full production dataset. ADM enables thorough application performance testing with the same data complexity and scope your new system must manage at go-live.

About ADM.

ADM empowers Accutive Security’s many banking, credit union, and fintech clients with rapid, autonomous identification and anonymization of their most sensitive data. Earlier this year, a large regional bank with \$22B in assets under management successfully deployed ADM to discover sensitive data and automate its test data management processes, recovering hundreds of hours of development time within the first month.

Automated data discovery and masking empowers digital innovation with efficient data protection, while ensuring compliance and enhancing security. This is why ADM is foundational to any comprehensive test data management plan.

Blockchain technology provides non-repudiation and guaranteed auditability, and ADM identifies and anonymizes data across any database or flat file, including the application of consistent masking values across multiple systems.

ADM identifies data sources containing PII, PCI, and other sensitive information in minutes, minimizing opportunities for unintentional exposure or inappropriate access. Once all your sensitive data is flagged, it is anonymized to create realistic, consistent values, allowing you to leverage your valuable data for critical business functions, such as software testing.

240,000+

Data masking
operations per
second

About Accutive Security.

We've made helping banks and credit unions succeed in the digital age our mission. With comprehensive technology solutions and support, including digital banking, digital account and loan origination, enterprise security, data management, and systems integration, Accutive Security's expertise opens a world of possibilities



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Accutive Security provides comprehensive information technology solutions which include enterprise security; IT application development; systems integration; lending platform services; and professional services to clients in industries ranging from financial services, healthcare, technology, entertainment, and retail. Accutive Security is a specialized team of experienced professionals with years of industry, business, and IT expertise dedicated to developing IT solutions that exceed our clients' expectations.