



An iBridge Point of View

Data Mapping: A Key Step to Staying Compliant with Data Security Regulations

How data mapping helps organizations comply with the GDPR, CCPA, and more.

Data security, data integrity, and data privacy are key concerns for today's businesses. In particular, the GDPR in the EU and CCPA in California mandate organizations to take the necessary measures to protect data at inception, in motion, and at rest.

Securing your data not only protects your customers' information but also helps you avoid hefty penalties. For instance, GDPR fines are rising exponentially (up to 10 million euros), and CCPA penalties aren't far behind.

But how can you be sure that all your data is fully protected at all times? Are you assuming that your data is protected, or do you know for certain that everything in your system is airtight? What can you do to take the guesswork out of the data management process?

The first step to securing your data is knowing where it is, how it travels from one location to another, and who has access to it. Data mapping takes the guesswork out by providing a factual account of the locations of all your critical information so you can ensure data security while obeying various regulations.

What's Data Mapping?

Data mapping is the process of associating data elements between two distinct data models or data fields from a source file to related targeted fields. It synthesizes information from multiple sources and is a critical step for a variety of data integration and

management tasks, such as data transformation or mediation between a source and a destination. It also provides database schema mapping for pre-integration data cleansing.

The Importance of Data Mapping

Data analytics is a key component in any digital transformation (DX) strategy in today's data-driven business environment. Data mapping allows companies to have more efficient document collection to organize their business critical data. Data mapping also provides easy access to information for timely decision-making.

Data mapping has greater accuracy and consistency, increases the efficiency of all business operations, and allows leadership to identify emerging trends.

Data mapping helps companies minimize potential issues that would lead to lower profits because it allows decisions to become more data-driven. Leveraging data mapping for decision-making can deliver higher quality customer experience to increase profitability.



Most importantly, data mapping enhances various data management tasks that are critical to ensuring data security, enforcing data governance and staying compliant with industry regulations.

How Data Mapping Helps Organizations Stay Compliant with Regulations

Data mapping's role in various data management tasks provides enterprises with an accurate picture of what data they hold, where it is, how it's moved throughout the organization, and what needs protecting.

Tracking such information will also help you set up the appropriate access controls and identify where you should implement measures like pseudonymization, encryption, anonymization, and aggregation to ensure compliance with various regulations, such as the GDPR and CCPA.

Data Migration: the one-time movement of data from one system to another. Data mapping ensures that the source fields are transferred to the destination fields safely and accurately.

Data Integration: the continuing process of integrating data from different sources into a unified view. Data integration enables analytical tools to be able to produce effective, actionable business decisions.

Data Transformation: the conversion process of data from one format to a designated format. Data transformation

is an element of data integration and data management, such as data warehousing.

Data Warehousing: the aggregation of data that has already been migrated, integrated, and transformed into one source for comparison or analysis to improve business intelligence. Data mapping guarantees that data gets to its intended destination.

Here are the key data mapping steps you should incorporate in your data management process:

Data Discovery

As data is used throughout an organization, it may "leak" into many places—for example, in development sandboxes, backup files, legacy systems, cloud platforms, and standalone databases set up by individual departments.



By taking inventory of every database and every instance of it, you'll have a full picture of all the data that's used, accessed, and needs to be protected within your organization. You can also map out every location and show the direction of data flow to track data movement within your company.

Data Classification

This is a process of the organization of data by relevant categories so that it may be secured more efficiently within your database system. Having categorized data will allow your database system to protect information with automated technologies. Data classification is particularly important when it comes to risk management, compliance and data security. It is crucial for companies to classify data so that there is coverage by the GDPR so it is easily identifiable and has proper security precautions.

Surface Attack Area Reduction

After discovering and classifying your data, you now have a good idea of what you need to protect and where the security gaps are. Assessing your cybersecurity risks can help focus your IT resources on the vulnerable areas that are most susceptible for attacks and breaches.

By identifying where and how your data may be exposed to unauthorized users, you can take the necessary actions to minimize exposure. Examples include masking personal data for analytics purposes, using

encryption to protect data at rest, in transit, or in use, as well as setting up role-based access control to allow only designated users to view, edit, or delete specific information.

Data Management

Most regulations, including the GDPR and CCPA, are ongoing requirements, so you'll need to manage your data consistently. You can leverage the knowledge and insights you gain in the data mapping process to track data usage and movement, as well as maintain records for future audit, processing, or decision-making.

You can automate many of these data management tasks to increase operational cost-efficiency while reducing errors and delays associated with manual processes. Automation can also minimize human oversight that can lead to costly data breaches and hefty penalties.

Data Mapping Techniques and Software

There are various data mapping techniques you can use based on the nature of the information, the structure of your system, and the objective of the process. Examples include:

Data-driven mapping, which discovers complex mapping between two data sets using heuristics and statistics evaluations. It can automatically find the transformations between the two data types.

An intuitive, cloud-based tool that is designed to have automated repetitive tasks will save time and decrease the risk of human error.

How to Select the Right Data Mapping Software

If you want to streamline your data mapping process and ensure its accuracy, you need to use the right data mapping software. Here are some key features and criteria to consider:

Support for diverse data sources: the ability to connect to a wide range of structured, unstructured, and semi-structured data sources such as databases, web services, REST APIs, and flat file formats.

Code-free user interface: easy to use drag-and-drop graphical interface empowers business users to take charge of the data management process with minimal IT support.

Automation and job scheduling: the ability to orchestrate a complete database mapping workflow with a time-based and event-triggered job scheduling function.

Instant data preview: real-time testing and mapping validation that lets users view processed or raw data at any step during the process to prevent mapping errors.

“Smart match” functionality: the capability to resolve discrepancies in field names to minimize issues caused by naming conflicts.

Data visualization: the ability to visualize data can help you understand the relationships among various data sources and the movement of data.

Automated data subject requests and consent management: a feature that allows you to request reports on their data or manage consent about how their data is used and have the preferences updated in real-time throughout your systems.

Reporting: customizable and synchronal reporting can help you assess, identify, and minimize risks in a timely manner while ensuring that you generate proper records for audit purposes.



Data Mapping Is Indispensable for Today's Data-Driven Enterprises

Staying compliant with various regulations is non-negotiable for any organization. Without data mapping, which gives you a clear picture of where your data is, how it's used, and who has access to it, you're shooting in the dark.

As such, data mapping is a key component of any data management system, ensuring the safety and integrity of your organization's business-critical information. However, setting up a cost-efficient system to manage workflows, comply with various regulations, and ensure that nothing falls through the cracks can be challenging without the right experience and expertise.

Here at iBridge, our team of digital transformation experts implements data management solutions for clients in healthcare, legal, manufacturing, utilities, education, finance, and more. We work closely with our clients to understand their business structure so we can set up the best data management systems for their organizations.

Get in touch to see how we can help your organization design and implement a successful digital transformation strategy.



iBridge is a Digital Transformation Company.

We help our clients collect, manage, and analyze their data to create meaningful operational control and improved profitability. For more than a decade, iBridge has successfully distilled complex information into actionable results.

www.ibridgellc.com