

# Easy, Accurate, and Affordable Entity Resolution Powers Digital Transformation

Digital transformation strategies are built on data. That's especially true of strategies that focus on people and organizations, whether customers, partners, employees, vendors, or citizens. Accurate 360-degree views of people and organizations bring together data from a variety of data sources, including customer data platforms, master data management systems, transaction systems, customer support systems, human resource systems, web forms, and more. The result is a complete picture that provides every group within an organization the same accurate information about a person or organization.

A 360-degree view can enable businesses to implement more effective fraud prevention and compliance initiatives, significantly reducing losses and fines while increasing profits that can be invested toward strategic goals. At the same time, a 360-degree view can greatly improve customer experience and boost revenue by providing multichannel and omnichannel views of customer data for cross-selling and upselling purposes. And customer service staff that can promptly retrieve accurate and complete customer history data can greatly improve the quality of their interactions.

## The Quest for Accurate 360-degree Views

To generate accurate data about people, it is necessary to resolve who is who and who is related to whom. Standing in the way of that seemingly simple goal are multiple records and the natural variability in data. Oftentimes, organizations

maintain many listings for a single individual, as well as inconsistent records for different individuals. Duplicate records can waste significant sums as organizations repeatedly contact or investigate the same individuals, and incomplete records can lead to mistaken identities and lost customers. In addition, fraudulent activity that is not detected can cause corporate expenses to balloon. This is not only due to direct losses but to regulatory fines resulting from lack of compliance with required activity reporting or the compromise of personally identifiable information (PII). And when fraudulent activity becomes public knowledge, brand damage can be significant and irreversible.

Despite the desirability of accurate 360-degree views, the experience of many technology leaders has shown that obtaining those views can be very costly and labor intensive. Too often, they have been burned by adopting expensive data-matching solutions that have been largely ineffective, whether those solutions were

developed in-house or involved complex commercial technology. The result has been wasted money and lost productivity on the part of technical staff committed to an initiative that failed to generate complete and trusted views. These experiences have led some technology decision makers to become apathetic as they settle for mediocre 360-degree-view accuracy.

## The Need for Entity Resolution

In the quest for accurate and reliable 360-degree-view information, **entity resolution** technology plays a vital role. Entity resolution is the process of determining when real-world entities are the same, despite accidental or intentional differences in how they are described (see infographic, “How Entity Resolution Works”). Entity resolution is also known by such names as identity resolution, record matching, record linkage, data matching, data linkage, data deduplication and profile unification.

Entity resolution can also help companies to gain understanding of households and other groupings of individuals. For example, entity resolution may determine whether a family member of your biggest customer might

be calling—important knowledge for delivering better customer service. Also, understanding relationships between people and organizations can help you reach new customers within networks of entities and better detect potential fraud or other illegal activities.

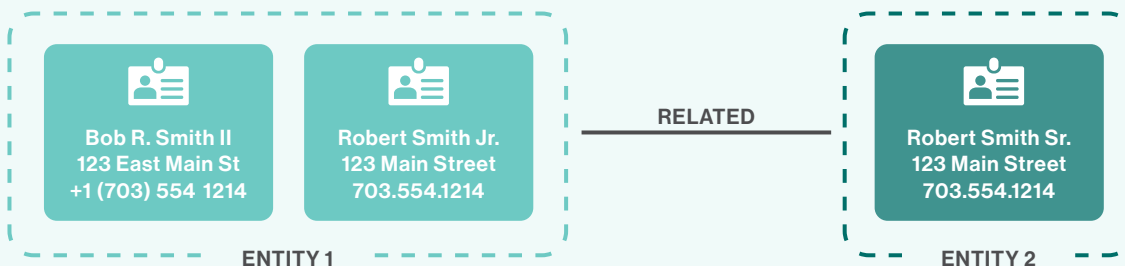
By gaining a complete view of customer purchasing history, cross-selling and upselling efforts can be more accurately targeted, resulting in higher success rates and higher profits. And information about hidden relationships provided to fraud prevention programs such as anti-money laundering (AML) and Know Your Customer (KYC) programs can greatly increase the ability of those applications to identify bad actors.

Entity resolution can help government agencies operate more effectively. In some cases, lives hang in the balance. For example, one of the Boston Marathon bombers evaded detection<sup>1</sup> when a watchlist that included him used a spelling of his last name that contained an additional letter. However, entity resolution can help overcome such issues to help government agencies identify criminals and prevent their entry into a country.

<sup>1</sup> “Russia Warned U. S. About Tsarnaev, But Spelling Issue Let Him Escape,” by Tom Winter, NBC News, March 25, 2014.

## How Entity Resolution Works

In the example below, entity resolution determines the two records on the left are for the same person or entity, despite many differences, while the third record on the right is a different entity, despite a difference of just one letter. Entities one and two are related due to a shared address and phone number.



## Master Data Management and Data Fabrics

Entity-resolved data improves the effectiveness and efficiency of Master Data Management (MDM) systems that create uniform data about customers, products, suppliers, and other business entities from different IT systems. Data fabrics also benefit. Adding entity resolution to a data fabric enables accurate 360-degree views of people and organizations to be used in dozens of enterprise-wide initiatives (see infographic). In addition, entity-resolved data improves other business systems such as customer relationship management (CRM) by assuring the accuracy and completeness of customer data.

## Senzing Entity Resolution

Senzing® entity resolution software overcomes traditional barriers to adoption by being both affordable and simple to use, making it possible for a wide range of organizations to gain the benefits of accurate and complete views of people and organizations for the first time. Developers can easily embed the [Senzing entity resolution API](#) into applications

or workflows as a locally hosted or cloud-based service. And Sensing entity resolution is priced according to the number of records an organization manages—smaller organizations with modest amounts of data pay less.

Sensing entity resolution technology is built with artificial intelligence and machine learning algorithms that acquire knowledge through experience. As data accumulates, the algorithms “get smarter,” gaining the capability to detect non-obvious relationships and hidden connections between records. Even when data quality is poor or people are trying to hide who they are, the ability of Sensing technology to learn enables the software to detect connections that would otherwise be missed. And Sensing provides accurate auditing tools as well as a full record of data lineage services to explain why decisions were made.

Sensing entity resolution also works in real time. Typically, data sources change over time. Batch-based entity resolution systems must periodically reprocess all the data, leaving windows of inaccuracy between reloads. By operating and updating in real time, Sensing assures that the 360-degree view of data is always up to date and accurate.

## Operationalizing a Data Fabric/Data Mesh

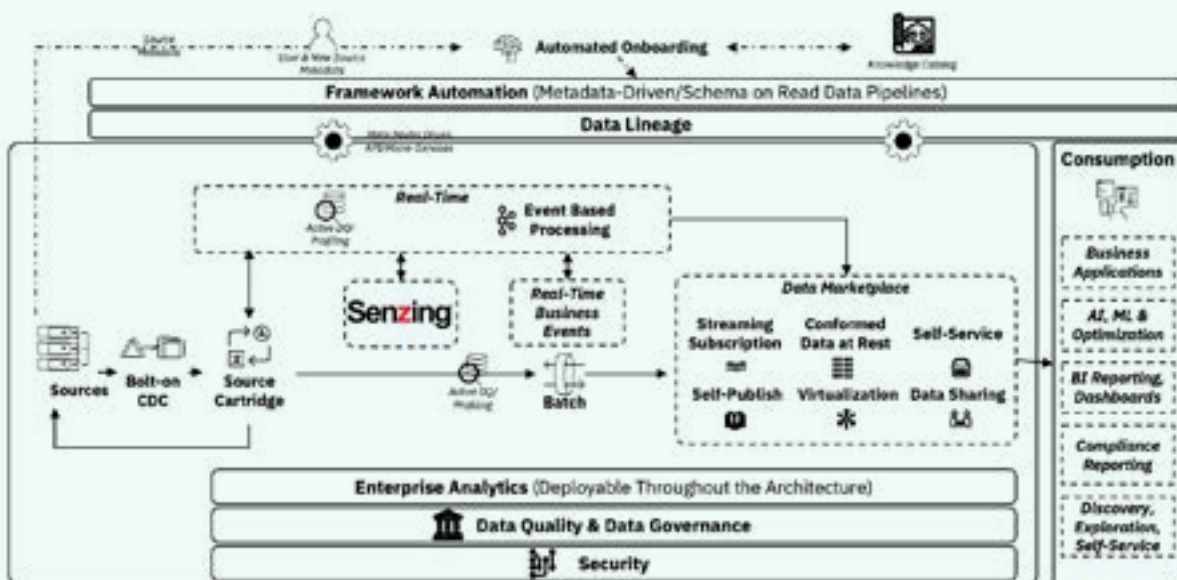


Image courtesy of IBM Expert Labs.

Entity resolution is a key component of any data fabric architecture

## Senzing Entity Resolution in Action

- To better detect money laundering and improve risk management processes, NICE Actimize augmented its AML solutions with Senzing real-time entity resolution. Senzing technology identifies entities and finds hidden connections between organizations and individuals to help financial institutions more accurately identify suspicious activity. The Actimize AML suite includes Suspicious Activity Monitoring (SAM), Customer Due Diligence (CDD-X), and Enterprise Case Management (ActOne Extend), which are leveraging Senzing for entity resolution.
- An information services company is deploying Senzing entity resolution as part of its enterprise data fabric. Senzing creates complete views of people, organizations, and their relationships from hundreds of data sources for use by the organization's many risk analytics solutions.
- A bank is improving customer experience by creating an omnichannel, global view of its customers. With such a complete picture, the bank can uncover previously unknown relationships to identify cross-selling and upselling opportunities among its customers. Giving bank staff a 360-degree view also helps to personalize customer service by enabling bankers to refer to detailed and accurate customer information during phone calls, chats, and emails.

## How to Get Started with Senzing

To gain an understanding of the capabilities of Senzing entity resolution technology, developers can download and evaluate the software for free, then get started quickly using Senzing's locally hosted API that runs on premises or in a private cloud. In addition to using Senzing technology on their own, companies can use third-party solutions that have embedded Senzing entity resolution into their software and service offerings.

### Summary

To speed digital transformation initiatives, accurate, 360-degree views of people and organizations are vital. Although key to delivering 360-degree views, the implementation of entity resolution technology in the past has been a costly and time-consuming exercise. Senzing surmounts those hurdles with flexible pricing based on record volumes and an easy-to-use API. In a game-changing approach, Senzing leverages AI and ML to enable organizations of all kinds to gain the 360-degree views of entity data that are essential for successful digital transformation.

To learn how entity resolution can enhance your digital transformation initiatives, visit [senzing.com](https://senzing.com) or schedule a call with a [Senzing entity resolution expert](#).