



Global IDs

# How Global IDs Met the Challenges of Scale at a Large Global Bank



## Background

A large global bank, challenged to meet multiple metadata management requirements over many years, lacked a comprehensive solution to meet these needs. At the same time management increasingly understood the value of organized data for analytics, particularly to increase top-line revenue in an era of historically low interest rates.

This situation, where it had not been possible to address the “defensive” needs of data and the “offensive” needs to support revenue-generating activities, has become common for enterprises of every size in every industry. However, it was challenging to solve for this bank because of the vast size of its data ecosystem, with data distributed in many different platforms spread out across different countries around the world. Executive management prioritized the decision to acquire technology to address these needs.

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## Why Global IDs?

The bank initiated a discovery and acquisition project, evaluating Global IDs among a crowded field of the industry's most respected metadata management technology vendors. The full stack of Global IDs' capabilities impressed the bank staff, and the bank invited Global IDs to undertake a proof of concept (PoC). Following success with the PoC, the bank acquired the Global IDs software.

The bank was acutely aware of its need for a technology that could scale. For instance, one software environment alone had 15 petabytes of data at the time of the installation of Global IDs. Since the bank is global, it has a massive data ecosystem accumulated through indigenous growth and acquisition spread across a wide range of countries. This meant that the scale of the problem was not so much about managing a few ultra-large environments – though these certainly existed – but a multitude of different database technologies in many different locations, making scalability even more of a challenge.

Another imperative for the bank was to acquire a technology with a broad range of capabilities. There was no appetite for selecting several different technologies that the bank would have to integrate, especially given the scale of the data ecosystem. This would introduce added complexity to effectively manage the metadata. Global IDs met this need with its extensive set of capabilities implemented as integrated layers in one platform solution (see Figure 1).

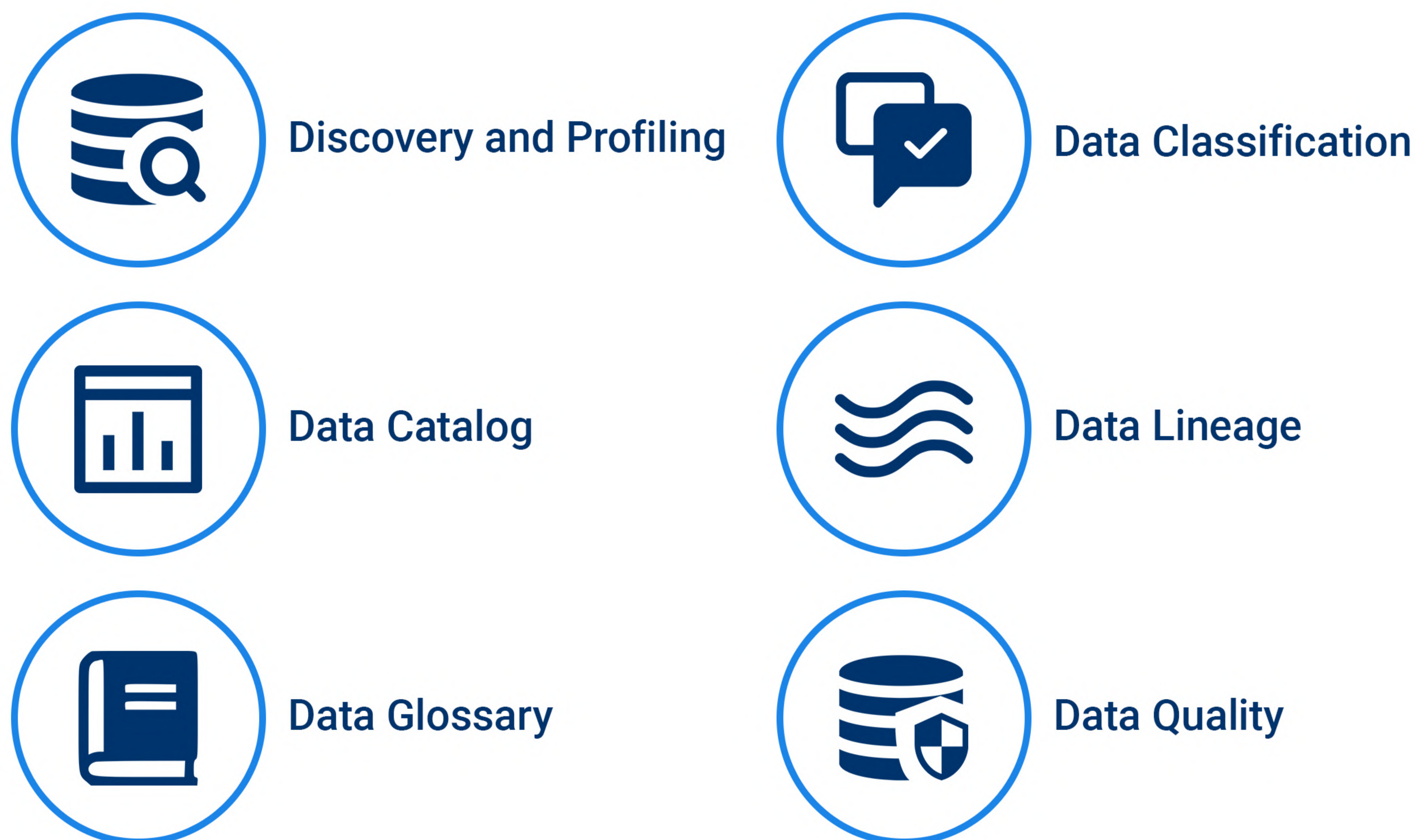


Figure 1: Global IDs Major Capabilities







## Ensuring Adoption of Global IDs

Meeting the selection requirements was one thing, but Global IDs also had to work within the culture and heritage of the bank to ensure adoption across the entire organization.

The bank worked with Global IDs professional services to assist with adoption, and Global IDs responded with the provision of a small team charged with delivering a firmwide solution. The level of automation that Global IDs provides means there is not a heavy footprint of professional services needed, even for a client like the bank with its massive data ecosystem.

As the team began to do its work, they became aware there had been several prior unsuccessful attempts within individual lines of business to build metadata repositories in-house. The Global IDs team focused on the need for one consolidated enterprise-wide view of metadata. This was a strategic need to gain alignment with the lines of business. It was also necessary for an effective solution for the data privacy use case. Bank staff understood this approach and lent their support to ensure a successful implementation.

At the same time, the team was able to respond to specific ways to align the overall configuration of the bank's metadata architecture. For instance, the bank had decided it would create an in-house application to infer semantics from column names. While Global IDs has the capability to infer semantics from both column names and data values, there was no difficulty in importing the required metadata to the bank's application and to reuse what this small but focused team produced.

This flexibility increased the speed of adoption of Global IDs. An important lesson here is that Global IDs understands that every enterprise will have its own federated metadata architecture, and it is imperative to be able to quickly integrate into this architecture for enterprise-level success.

## Encountering Challenges of Scale

As might be imagined, unforeseen challenges came up that had to be overcome – principally because of the enormity of the initiative's scale. The three primary challenges the team faced were:

- 1 No database inventory
- 2 Need for automated scanning of databases with change detection
- 3 No metamodel to accommodate divergent database types







These challenges were dealt with as follows:

**1 No database inventory:**

At the time of the project’s inception, there was broad support from each line of business and the software was scanning database targets. But management wanted to report the percentage of database scan completion across the entire data ecosystem. This was impossible because the denominator was unknown as there was no firmwide database inventory. The project addressed this by creating an enterprise-wide database inventory.

**2 Need for automated scanning with change data capture:**

The database inventory created to meet the previous challenge was used to drive automated database rescanning using Global IDs APIs. During a rescan, the software recognizes database objects that have changed since the previous scan. This allows software scanning resources to target just changed objects to reduce scan times by more than 95% (compared to a full database rescan). The scanning speed allowed increased scan frequency to keep the firmwide metadata repository up-to-date (evergreen).

**3 No Metamodel to accommodate divergent database types:**

The bank wished to deploy a reporting solution to offer the metadata to consumers. This posed a significant challenge as it was unclear how to model the metadata from varying structures in a wide variety of relational, NoSQL, mainframe and big data structures. One benefit of the Global IDs software is it has been designed to conform the metadata from various database technologies into one data model. The Global IDs data model proved invaluable for the team to deliver this firmwide metadata reporting solution. It was widely acknowledged that the Global IDs single unified data model was one of the most valuable contributions to the success of the project.

By overcoming these and other challenges, the team was able to achieve its primary goal of metadata management the scale of the enterprise. Figure 2 shows the current data ecosystem size that Global IDs monitors.

Size of Data Ecosystem Monitored by Global IDs	
Database:	1,000,000
Database Tables:	43,000,000
Database Columns:	600,000,000

Figure 2: Scale Currently Achieved by Global IDs





## Addressing Rate of Change

Being able to scan extremely large data ecosystems is, in itself, an achievement, but it quickly loses its value if scanning cannot keep up with the rate of change within a data ecosystem. This bank was no exception. After meeting the challenge of the variety of different data platforms, the Global IDs Metadata Change Detection capability was leveraged for rescanning to identify only changes in each data source. During rescans, the software focuses scanning resources on just the database objects that have changed since the last scan. The result has been that Global IDs can rescan the entire vast data ecosystem of the bank in 2–3 days. This keeps the central metadata repository evergreen, and it can be used with confidence to meet the requirements of the major data privacy use case and additional use cases the bank has also solutioned.

## Why Scale Matters

We have looked at how Global IDs addressed scale in a large global bank, how Global IDs was adopted, and how the support team identified and overcame a number of challenges.

In the end, scale matters for all enterprises. There is always more data than anyone imagines. There are always more types of data environments than are centrally documented. And there is always a need to integrate into a larger metadata architecture.

In this case study, we see how Global IDs met the bank's challenges. If your enterprise needs a metadata management tool that is proven to work at scale, please contact us to learn more about Global IDs at [globalids.com](http://globalids.com)

