Information Builders

Omni-Gen

Simplifying and Accelerating Master Data Management

A White Paper

WebFOCUS iWay Software Omni

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Introduction

Data mastering applications improve strategic planning and tactical decision-making by creating a unified, consistent, and accurate view of data across an enterprise. These benefits have translated into substantial growth in the master data management (MDM) market.

Sales of MDM-related software and services are rising at an annual rate of 23.2 percent, and are expected to reach about $27 billion by 2020[1]. An explosion of corporate data, the emergence of big data, and increasing compliance requirements also contribute to this trend.

But few mastering projects succeed, due to the time and effort that is required to implement and execute them. Traditional approaches to mastering data are long, complicated, and cumbersome endeavors that drain resources. It can take a year or longer to produce a single mastered domain – proving very costly for companies that need to master multiple domains.

This white paper discusses the pitfalls and problems of legacy master data management methods. It highlights innovative new approaches to data mastering and introduces Omni-Gen, a product that simplifies and accelerates the creation and deployment of mastering applications.

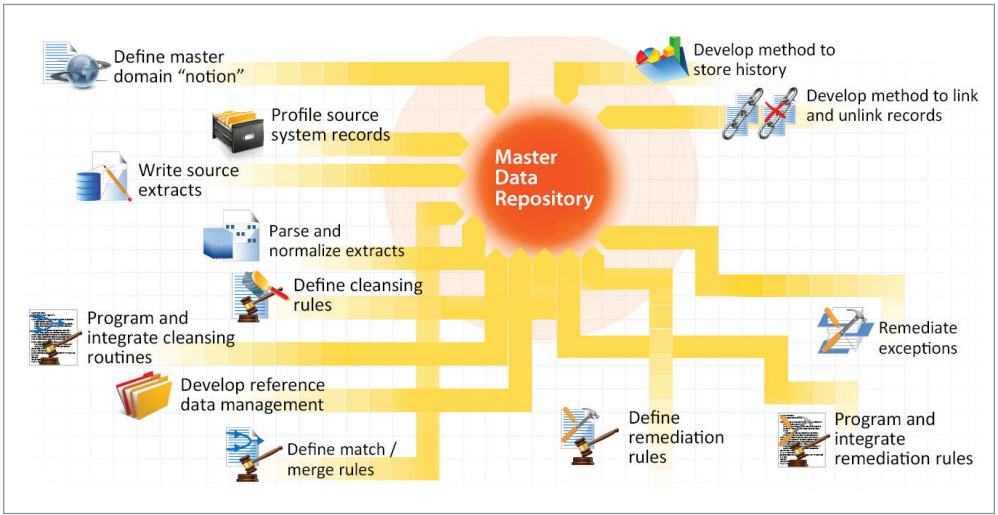
Omni-Gen reduces the time to master a single domain from 12 to 18 months, to three months or less. This new solution combines integration, data quality management, and master data management capabilities into a single, unified environment for efficiently defining integration, data quality, match/merge, remediation, and unification plans.

[1] "Master Data Management Market Worth $26,799.6 Million by 2020," MarketsandMarkets, April 2015.

The Pitfalls of Traditional MDM Approaches

Traditional approaches to data integration and master data management are bottom-up and technology-driven, as opposed to a top-down approach that first considers business needs.

Furthermore, master data management is a complex, costly, and time-consuming process. Organizations must define domains and source systems; locate, extract, profile and cleanse, and integrate data; create and implement match/merge rules; and develop and apply remediation policies. It takes as long as 12 to 18 months to master a single domain.



Traditional master data management is a complex, multi-step process that can take a year or more to complete.

The core capabilities of most mastering solutions are limited solely to match/merge automation. But multiple technologies – extraction and integration, data quality management, testing, business intelligence (BI) and analytics, and ongoing data governance – are needed to deliver a comprehensive mastering application. Oftentimes, organizations piece together these functions using technologies already in-house, creating a mastering infrastructure that is disjointed and difficult to manage.

Furthermore, many organizations focus on the match/merge tasks within the mastering process, and place a lower priority on integration, quality management, and other important procedures. This leads to significant delays.

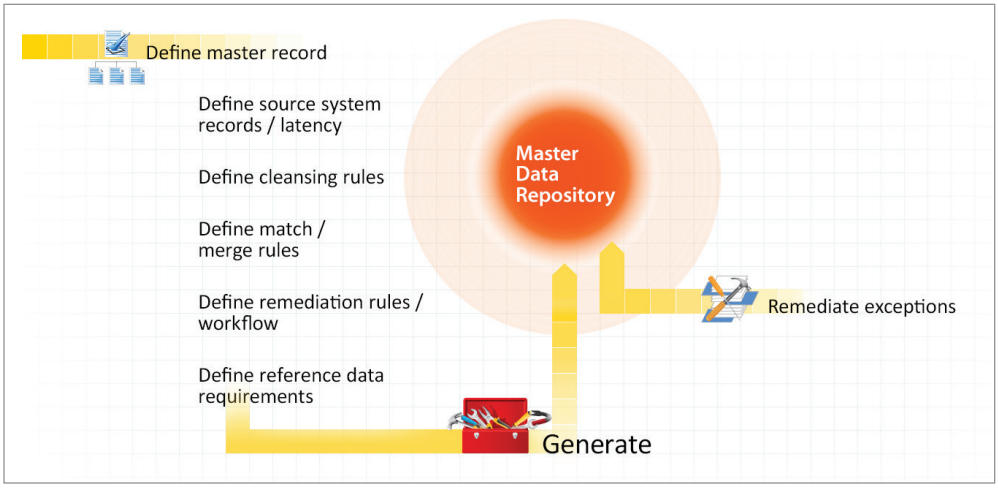
For example, an IT team may begin match/merge steps only to find that information quality is questionable. They must then go back and apply data quality rules before once again matching and merging. The diagram above demonstrates how mastering plans that lack integration and data quality require additional steps for tasks, coordination, and dependencies. This extends the time it takes to create a single mastered domain to as long as 18 months.

Omni-Gen: An Agile, 21st Century Approach to Mastering Projects

What if you could master a domain in just three months or less, rather than 12 to 18?

Omni-Gen from Information Builders takes a unique approach to data mastering that starts with the master record. Most organizations can identify approximately 80 percent of the attributes of that record, which serve as the first iteration of the agile development of a mastering application.

The diagram below depicts the iterative Omni-Gen methodology, which automates key steps of the process, from integration and cleansing through remediation.



Omni-Gen takes an agile approach to master data management, data quality management, and data integration.

Knowing what the master record should look like jump-starts the building of the application. It also accelerates many of the linear tasks with traditional approaches, which can occur in parallel with Omni-Gen.

Implementation best practices incorporated into Omni-Gen consider the following key components of a mastering application:

Data Integration. Technology-driven approaches to data mastering fail because organizations don't consider the importance of data integration at the speed of business. Omni-Gen moves as the business does, from real-time to batch.

Data Quality. In tools-based, technology-driven approaches, the MDM solution is the focus of the project. Data quality rules are not applied to incoming data, resulting in re-work and delays. Omni-Gen makes data quality a significant part of the initiative at the onset.

Data Governance and Remediation. Data remediation as a part of formal or informal data governance is often an afterthought in a mastering initiative. Omni-Gen includes sophisticated data remediation facilities, such as remediation workflows to manage exceptions in the process.

Data Mastering. Mastering should be the last step in the creation of a mastering application, but it's typically the central activity in tools-based approaches. Omni-Gen does not master anything until it has been delivered in its best state, at the speed the business requires.

Sophisticated Business User Interfaces. The ability for business users to view mastered records (along with instance and source records) is critical to the success of any mastering application. Likewise, data stewards need an intuitive interface to remediate issues. Omni-Gen includes these types of interfaces.

The unified technologies above leverage best practices in the development and implementation of mastering applications. This approach takes a top-down perspective that focuses on business issues, starting with discovery among the business stakeholders who originate, own, and use the data, rather than determining what existing data needs to be mastered.

Business users who best understand how information is utilized are asked what the golden record should look like. Entities, the data relationships among them, and their obvious attributes are then quickly identified, so a first cut of a golden record or logical data model is rapidly produced.

The impact of this new approach is evident at a leading health insurer. Using this top-down methodology, the organization rapidly mastered five domains, on-boarded four healthcare providers, and successfully met a regulatory reporting deadline. The project took approximately seven months, compared to the years it would have taken with more traditional techniques.

Step 1: Begin With the End in Mind

Omni-Gen is so revolutionary because it begins in a very simple place, with what the master record should look like. Most organizations have a hard time determining all the attributes of a master record, but can very easily come up with 80 percent of them. This is the starting point.

Begin with the end in mind and declare rules.

Omni-Gen avoids the obstacles that come with starting at the bottom. When an organization begins with technology and works its way up with an approach driven by the limited features of traditional data management tools, it faces long and challenging deployments, or gaps in the capabilities required for end-to-end modeling and mastering.

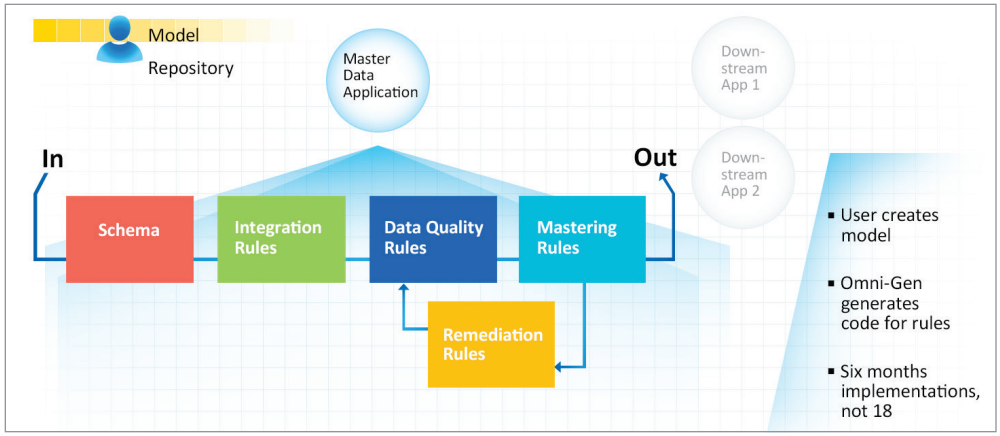
Once the starting point is defined, the agile process of declaring rules about those attributes begins. Rules are declared around data cleansing (i.e., standardizing on a format for city, state, zip, etc.) and remediation (i.e., if something can't be fixed automatically, who should be responsible?).

Finally, rules are declared around matching and merging the different source data into a single, golden record (i.e., will the full, standardized name and complete address determine if two records represent the same people?). All three of these processes happen in parallel, leading to faster results.

In addition to IT, these conversations should involve people from the business side. A collaborative environment will lend itself to a better final product, because the process is agile, iterative, and cooperative.

Once the rules are declared, Omni-Gen moves on to the next phase – creating the mastering application.

Step 2: Generating Rules for Master Data Application and Populating Repositories



Configure integration, data quality, remediation, and mastering processes associated with the mastered application.

The rules discussed in step one are then applied to the underlying technology. Developers use the golden record to identify the needed data attributes, which then define an inbound document specification (IDS). Data sources are simply mapped to the IDS.

This saves a tremendous amount of time. A mapping exercise is much easier and faster than searching through operational data to find attributes that should be mastered. Mapping also suits an iterative, agile approach.

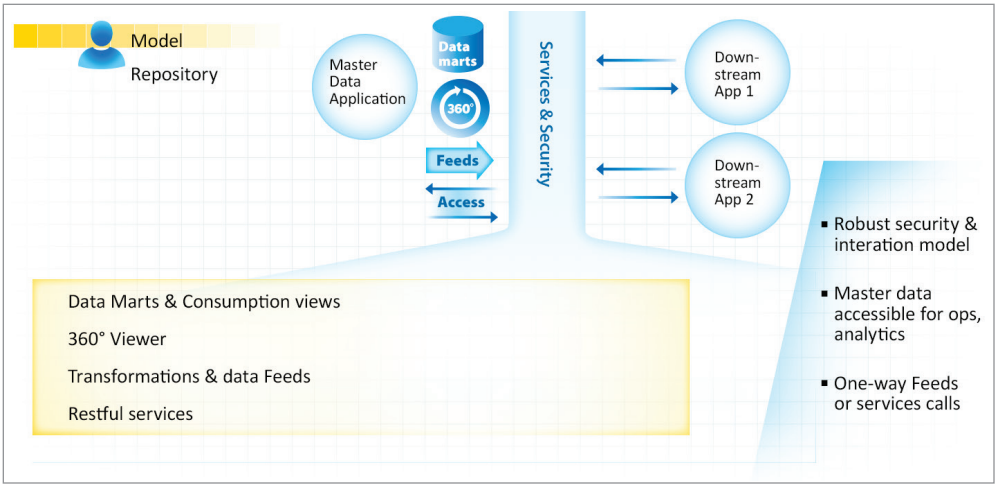
Additional activities include:

- Applying integration rules and constructing integration process flows based on the rules provided to manage the flow of data into the mastering application, including how data moves through remediation processes
- Applying data quality rules and constructing data quality plans based on the rules provided to cleanse and standardize the incoming data
- Applying remediation rules and creating remediation workflows based on the output of data quality plans. Integration processes move the data through the system
- Applying mastering rules and constructing plans based on the match/merge rules provided to create the golden record

Repositories are created for data profiling, data remediation, and master history. The profiling repository enables, from a business perspective, the ongoing monitoring of data improvements (or lack of improvements) over time.

The remediation repository offers the ability to audit changes, as well as key performance indicators (KPIs) that deliver insight into who made a change, how long it took, who it was sent to, etc. The master history repository enables point-in-time analysis, and allows linking and unlinking of master records that have been identified as false positive or false negative. These link/unlink routines are created based on the rules defined in earlier steps.

Step 3: Define Services, Interfaces, and Security



Deploy a mastered application with associated upstream and downstream applications.

Once the golden record is complete, it should be available via data marts, so users can access it with analytical tools and applications. Users need full visibility into the mastered record and instance records (the cleansed source records), as well as the original source records.

Omni-Gen's 360° Viewer provides a view of all master instances and source records. Consumption views are created primarily for access by analytical tools.

Included integration models ensure that data feeds are operating correctly and at the appropriate latency. These models also harmonize and synchronize information for consumption by both RESTful services and downstream applications.

Additionally, Omni-Gen's robust security model protects both the master record and the entire application. By providing these capabilities out of the box, Omni-Gen accelerates the mastering process and ensures the success of mastering initiatives.

Conclusion

Master data management is no longer a long, drawn-out, time-consuming initiative fraught with risk. New approaches leverage best practices and proven, unified technology sets to enable organizations to efficiently and economically create consistent, accurate views of data across the enterprise.

Omni-Gen from Information Builders enhances and automates key steps within the mastering process, including integration, data quality, match/merge, and remediation. Its top-down, business-focused approach eliminates many of the obstacles to success and reduces the time needed to master a domain from 12 months or more, to just three or less.

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