



Master Reference Data:
Extract Value from your Most Common Data

White Paper

Table of Contents

Introduction	3
So What?!? Why align Reference Data?	4
MDM Makes MDM Better	5
Synchronize, Integrate... Master	6
Intelligent Business Intelligence	6
Facilitate Implementation.	
Sprechen Sie Deutsch? Je parle Français!.....	7
Sunset Legacy Applications	7
End Game: Reference Data Services	8
Key Considerations for Master Reference Data	8
Central master reference data model	8
Mapping	8
Populating the master	9
Publish data	9
Access and Provisioning.....	9
Ownership and Process	9
Talend MDM Masters Reference Data.....	10
Master ANY domain... such as Reference Data	10
Reference Data Services	10
Web UI and Collaboration	10
Workflow and Process.....	11

Introduction

The daily operations of any business rely on a set of reliable reference data that fuels processes and interactions with peers and customers. This data is the lifeblood of an organization but inconsistent of this data across business units or systems can lead to inefficient processes and inaccurate analytics.

Most organizations understand the importance of consistent reference data but struggle to ensure consistency and to police compliance to a central reference data standard. The disparate nature of many master data challenges can often be tracked back to this reference data management challenge.

“The reference data problem: Disparate data sources and different systems use different codes for the same information.”

Reference data consists of codes and values that provide meaningful context for data within a system or organization. It is a vital foundation to any business concepts and is critical to the reliability of any application. Simple reference data can include system codes, geographies (state and country tables), zip codes, currencies, etc. More complex reference data might expand into items such as a product catalog, location data, a chart of accounts, asset lists and others.

“Master reference data makes operational data more accurate and improves effectiveness of MDM.”

All of these types of reference data share common characteristics: they each are stateful, available to change over time and may require agreement from a group of people or systems on their accepted values.

If synchronized across an organization, common, or master reference data can ease inter department and cross system communications resulting in huge savings in resources and time.

Reference data is often a challenge because each system or data source may each have every different, yet distinct data structures and values defined for this important data. In a small contained environment, resolving reference data between systems is a challenge but addressable. Adding systems to this contained environ adds exponential complexity. With each additional layer comes intricate nuance that impedes and complicates the mapping of this data between all the various systems.

So What?!? Why align Reference Data?

Reference data is the lifeblood of your applications. Without it, data is corrupted and systems become unreliable.

Inconsistent reference data decreases effectiveness of business analytics and in turn accuracy of marketing programs and strategic initiatives. Misaligned referenced data introduces complexity to master data management (MDM) and synchronization initiatives, and increases the time it takes to implement data integration projects. Finally, without access to reliable cross function reference data, new application development requires extra careful coordination of external interfaces which extend development time and costs money.

The following sections highlight a few of these examples.

MDM Makes MDM Better

Mastering reference data is an MDM project in itself. Until recently, most MDM solutions have been geared towards mastering customer and product data; however, new solutions have surfaced that all organizations to model and master ANY data, and extend beyond the traditional domains. One area ripe for mastering is reference data and ironically, this specific master will improve both customer and product masters.

Master Reference Data aligns disparate sources and some of the domains that will benefit from this are customers and products. Common reference data increases accuracy of matching. In the end, this alignment will help create a more reliable master for these traditional domains.

Mastering reference data is one strategy for kick starting a larger MDM initiative. Alignment of this shared data is often a foundation of the governance process and often initiates or eases alignment of resources to help provide a process for definition and management of the entities. Reference data is typically easier to govern as politics are less complicated and ownership can be mitigated through mapping and shared responsibilities.

Eventually, well designed and effective cross system master reference data will absolutely improve the overall accuracy of matching and linking disparate data, regardless of algorithm complexity.

Synchronize, Integrate... Master

Typically in any data synchronization or data integration process a key element of the process is to map data in a source to a target. This one-time mapping requires careful consideration of the relationship of each reference data value to ensure consistent and reliable results.

During a typical integration project, this mapping is a manual process which involves interviews, spreadsheets and meetings. Automation of this process provides a framework for creating this map and can institute a workflow in order to provide process to improve collaboration. Ultimately, creating a master reference data source will allow you to share this work on future projects as well.

Intelligent Business Intelligence

Let's consider a multi-channel organization that sells products to customers via traditional brick and mortar stores, as well as through an online marketplace and a distribution channel. Any organization would like to gain insight across these channels in order to analyze purchase behaviors and improve effectiveness of marketing programs and product development. In order to do so, they need to bring the data together and then augment this with data from receivables and general ledger data.

No matter how effective a business intelligence system is, cross-system conflicts of reference data impede the creation and accuracy of this analysis. It is almost impossible to obtain an apples-to-apples comparisons when a business intelligence application is working with fundamentally dissimilar data sets.

Facilitate Implementation...

Sprechen Sie Deutsch? Je parle Français!

No two developers will ever deliver the same application no matter how well the problem is defined and the requirements are outlined. Further, most developers would agree that system complexity is directly proportional to the number of external interfaces that need to be implemented. The main reason for both of these issues is that there is no one language that is spoken between applications.

The IT industry tried to implement common data standards; however widespread adoption is hardly in wide use. All systems and applications are speaking different languages. IT needs to align heterogeneous information so that the organization can exchange both internally and with business partners.

Having a master reference data resource for systems provides a reliable cross platform map or translation of codes and values. This creates alignment, eases development process and can eliminate costly process involved with remediating communications between systems. Further, a reference data master can ease the creation of advanced composite applications and simplify the implementation and integration of new systems.

Sunset Legacy Applications

Master reference data eases the process of sunsetting legacy applications. Sometimes, old, out-of-date systems remain active because someone or some application needs access to some piece of data within that system. With master reference data this data can be hosted without maintaining the expensive back end system, eliminating resources costs associated with this redundant system.

End Game: Reference Data Services

The ultimate reference data master will not only persist a reliable source for cross system shared codes and data types, but it would also police this data across the enterprise. This latter goal is more difficult to accomplish but creating the master, implementing a framework for collaboration around it and then making it available via subscription is absolutely plausible.

Reference Data Services provide consistent and reliable codes and values to approved systems and applications.

Key Considerations for Master Reference Data

Creating master reference data is simpler than it seems. Many organizations have been successful with these projects. Typically, they start small and then grow the master as acceptance spreads throughout the organizations. Some key considerations for creating a master reference data source are outlined below.

Central master reference data model

The first step to creating a master anything is to define a data model that defines the master. This data model may change over time so there is no need to be exactly right out of the gate. The key is to start with something and sometimes, the easiest way to get started is to adopt a format from some existing system and modify it to be more generic.

Mapping

Create a medium to maintain the mapping between systems. This map must also take into consideration ownership and process (as defined below), as well as hierarchies and other relationships within this master reference data.

Populating the master

No master data is valuable unless it is available. One should develop and execute integration jobs to populate the master. These same integration techniques should be used for ongoing maintenance and communication with systems.

Publish data

Master reference data is made available via master data services. This allows any “approved” system to subscribe to the data and increases chances for wider adoption.

Access and Provisioning

Outline a plan for proper access rights and ability to provision the master reference data. This not only includes the creation of the master but also who can access the data. Control of this should be set within the master itself.

Ownership and Process

Who owns what data needs to be carefully planned and documented, with clear definitions of which system is the authority for specific data and the outline of a process that enables people to collaborate and agree on new values and codes. Typically, this step is a main component of the data governance plan. It will allow you to avoid conflict and ongoing debate.

Talend MDM Masters Reference Data

Talend MDM is the only complete master data management (MDM) solution that delivers easy to deploy, rapid end-to-end functionality for integration, quality, mastering and collaborating on enterprise reference data.

Some of the key features of Talend MDM that enable a master reference data are highlighted below.

Master ANY domain... such as Reference Data

Unlike other MDM solutions, Talend MDM leverages a flexible, active data model to create reference data master without being constrained to a rigid domain model. This allows the creation of the reference data master that fits any organization. Further, Talend MDM's XML-based Active Data Model permits an iterative definition of the data model to gain alignment from business users and ensure adoption upon launch.

Reference Data Services

Talend MDM's Active Data Model automatically publishes services for create, read, update and delete functionality, making the data available for consuming systems. This data model driven approach allows for definition of access controls and provision data for the reference data.

Web UI and Collaboration

Talend MDM's Web UI is a dynamic interface that is driven by the definition of the data model. As one defines and modifies the model, the web interface is automatically updated eliminating the need for development resources to create the reference data maintenance application.

Workflow and Process

Key to creating a reference data master is to enable the business process around the data. Talend MDM packages business process management features that allow you to implement a collaborative workflow and put the power of cooperation and approval into the hands of the data owners.

Talend MDM includes these features and more. The open source approach allows for download and creation of a master reference data hub today.

Please visit www.talend.com to learn more.

For more information on Talend open source solutions: <http://www.talend.com>
Contact Talend in your region: <http://www.talend.com/contact>