The Requirements for Universal Master Data Management (MDM)
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Executive Summary

Companies have typically tackled the problems of unreliable data by implementing multiple master data management (MDM) point solutions in specific domains, such as a customer MDM solution for customer data and a product information management (PIM) solution for product data. This is a sensible approach, but some companies are realizing that they have solved one set of problems only to create another: They now maintain multiple sets of master data that are established in functional silos, making it impossible to view the data across domains. Compounding the problem, customer data alone is often mastered in multiple systems such as marketing systems, CRMs, and call centers across local MDM solutions, cloud services, and legacy systems.

Business Challenge: The Lack of an Enterprise View

Without an enterprise view into master data, some companies cannot link product data from their PIM application to customer and channel-partner data from their MDM solution to answer basic questions, such as “Which products did Bob Smith buy and through which channels?” Without a view into the relationships among different types of data, businesses find it extremely challenging to automate profitable business processes such as order-to-cash or procure-to-pay. Similarly, they cannot generate a list of interactions that a customer engaged in within a given time frame, such as calling tech support, making a purchase, or signing up for new publications.

Enter Universal MDM

Universal MDM sits in a layer above a company’s disparate applications such as CRMs, marketing systems, call centers, and MDM solutions, unifying them into a single, all-encompassing MDM solution. With Universal MDM, a company can maintain a single view into all of its master data. A company can gain a view not only into the relationships among entities across different domains but also into the interactions that touch these different domains.

Universal MDM promises a wealth of business benefits. To choose one example, customer service representatives would always know the full history of every customer, in order to go above and beyond customer satisfaction; by solving more problems more quickly, they would be advantageously well positioned to offer special discounts.

However, Universal MDM has a set of comprehensive requirements. It needs to work with any source and any target, and it needs to work with any domain and any style (Registry, Consolidation, Coexistence, Centralized). Finally, it needs to be able to work with any client on any platform or device.

Fundamentally, Universal MDM must provide:

- Universal services. Services that work universally across all master data in the enterprise
- Universal domains. Universal support for all key data domains
- Universal governance. Control over all master data through a common interface
- Universal solutions. Solutions that work universally for companies in key vertical industries

In this paper, we’ll discuss these requirements in detail.
The Requirements for Universal Master Data Management (MDM)

The Need for Universal Services

To implement Universal MDM, certain services must be made available across all of the enterprise’s MDM-related products:

- **Platform Services** such as data integration (DI), data quality (DQ), data synchronization, and data federation
- **MDM Services** such as rules, metadata, history, and lineage

**Platform Services**

In the case of Universal MDM, users across the enterprise need to be able to rapidly load master data from source systems directly into the MDM system. DI needs to be universally available for all MDM solutions so that administration and the user experience are standardized. Simultaneously, DQ tasks must also be universally available to uncover duplications, errors, and inconsistencies across all master data at the enterprise level. Finally, there needs to be a component that synchronizes master data across operational and analytical systems so it equally available to both. The Universal MDM implementation should be able to keep data-handling instructions separate from the underlying execution technology so that such platform services can be mapped once and deployed anywhere they are needed.

**MDM Services**

Similarly, all MDM rules should be universally available across all data domains. Administrators should not have to create separate match rules, for example, for every domain. The Universal MDM implementation should enable administrators to master once and use anywhere, greatly simplifying administration and maintenance.
The Need for Universal Domains

Business processes naturally touch multiple data domains, but this does not present a major challenge for most companies. The real challenge is that companies cannot predict what tomorrow's business problems will look like, what required business processes will involve, or which data domains will need to be supported. For this reason, Universal MDM must support all domains, universally.

A Universal MDM implementation should provide not only broad support for different types of data domains and the relationships among them but also a depth of functionality for each individual domain.

For example, companies need to be able to author product data collaboratively; produce product descriptions in multiple languages; and publish them in catalogs, online, or on mobile devices. For customer, partner, or channel partner information, companies need to be able not only to manage duplicate names but also to merge data with external feeds from sources like Dun & Bradstreet.

The Need for Universal Governance

When data is stored in functional silos, one of the biggest challenges is that there is no way to implement data governance across those silos. MDM creates consistency and resolves duplicates but does not prevent further duplicates. It is only through governance that companies can, for example, implement real-time prompts that stop employees from creating duplicates. For this reason, Universal MDM requires universal governance or an interface for governing data that works universally across all master data. Ideally, a Universal MDM implementation should also provide strong reporting capabilities that clearly indicate the status of matches and their scores.

With universal governance, an organization can establish effective rules for the use of data across the enterprise as well as for improved efficiency, decision making, and security. With consistent methods for accessing and manipulating data, including prescribed roles, responsibilities, and access privileges, organizations are also better equipped to establish complex relationships among a variety of entities, such as the hierarchical relationship of parent companies with their various subsidiaries, or relationships among different customer contacts that might not be immediately apparent. Universal governance also enables organizations to more easily comply with regulations such as the Sunshine Act, Dodd-Frank Act, Sarbanes-Oxley, Basel III, and HIPAA through established guidelines for shared reporting. And finally, it also allows organizations to much more easily engage in initiatives such as the creation of composite applications that pull data from different departments; enterprise-wide workflow monitoring; and universal search.

The Need for Universal Solutions

Though Universal MDM solutions should be tailored to meet the needs of individual organizations, they should not be built from scratch for every implementation. Rather, they should leverage solutions that are prebuilt for companies in key vertical industries such as banking, pharmaceuticals, healthcare, and insurance.

Each industry has its own particular challenges with regard to mastering data. Banks often need to focus on
aligning their different businesses with individual customers to improve customer service while identifying cross-sell and up-sell opportunities. Pharmaceutical companies often need to focus on quickly reducing research redundancies, since any delay can result in lost revenue.

Universal MDM should offer solutions that accelerate time-to-value with predefined data models, prewired business rules and logic, and preconfigured user interfaces. Such solutions would improve business-user productivity as they engage in the business processes particular to their industries. The solutions themselves would leverage the collective wisdom of the organizations that use them over time.

The Benefits of Universal MDM

If implemented effectively, Universal MDM:

- Solves virtually any MDM-related business problem through a flexible, open platform and proves its effectiveness in numerous business applications across several verticals
- Easily adapts to changes by automatically configuring business rules and services to realize value in months, not years, in every phase of the project
- Enables companies to start quickly by solving their most pressing business problems and then expanding to other solutions and departments as needs grow
- Empowers business users with instant access to relevant, trustworthy data that can reveal valuable new business relationships

UNIVERSAL MDM USE CASE: MULTICHANNEL COMMERCE IN RETAIL

Consider a large retailer of sporting goods, with a few hundred stores, a handful of related websites, and a typically large assortment of equipment, accessories, and clothing. To obtain all of this merchandise, the company works with a long list of suppliers and distributors. To prepare the merchandise for sale, the company must pull product data from a PIM solution and reproduce it in a variety of formats, such as catalogs and websites, in multiple languages. At the point of sale, representatives need to have an understanding of customer activities in all channels, online, or in-store.

In this scenario, Universal MDM would unify the retailer’s business-critical master data, enabling the company to gain more value from sales, marketing, and customer service activities. Universal MDM would establish a common set of services for integrating customers, products, and suppliers. Data quality would be implemented consistently across the organization to ensure the accuracy of product descriptions. With the ability to unify master data across multiple data sources, such as its PIM and CRM solutions and channels, the company would have a single view of the customer. As a result, representatives would be able to better understand customers and their needs, whether they walked into a store or chatted over one of the company’s websites. With a common interface for managing master data (universal governance), the retailer could easily establish which employees could view specific data from various partners, such as suppliers. And finally, Universal MDM could provide the retailer with powerful, proven rules and models that are specific to retailers.
Conclusion

Universal MDM has the potential to unify an organization’s disparate sets of master data, no matter the source, target, style (Registry, Consolidation, Coexistence, Centralized), client, platform, or device. This ability affords business users with a single view of master data across the enterprise, including a view into the relationships among entities in different systems and the interactions that touch different systems. With this view, business users can engage in a wide range of initiatives to increase the efficiency and profitability of the enterprise. To be truly effective, however, a Universal MDM solution needs to provide universal services, universal domains, universal governance, and universal solutions.

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