

INNOVATION THROUGH MASTER DATA MANAGEMENT

This document represents the unique viewpoint of Software AG on MDM



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Google[®] estimates that if we measure data creation from the earliest days of information processing through 2003, humans have produced five exabytes of data (or five million terabytes), and now every two days we create five exabytes of data! Between 2000 and 2012, Gartner calculated data volumes exploding 30 fold and predicts big data challenges in the cloud for 2014. More than ever, This exponential growth in enterprise data makes bad and inconsistent data more costly than ever:

- Bad data costs the healthcare industry \$314 billion per year
- Costs of bad data may be as high as 25 percent of total business revenue
- Bad data costs the U.S. economy over \$3 trillion a year¹

The path to good data

For the purposes of this document, consider the fictitious tire company Acme, which lacks coherent system synchronization capabilities (see Figure 1). In this scenario, the manufacturer routinely sends conflicting data about tires available for sale. Because of data that is out of sync, a discontinued brand of tire is accidentally offered as a promotion. Dealers order it in large quantity, only to be told that it is no longer available. Since orders cannot be fulfilled, a confusing cycle of reorders, low dealer inventory levels and dealer frustration results (not to mention a downturn in customer satisfaction). This process clearly is broken because potentially good data from a manufacturing system has failed to update internal sales and marketing systems that, in turn, are required to transmit actionable data about tire inventories to external business partners.

¹ Source: <http://soa.sys-con.com/node/1975126>

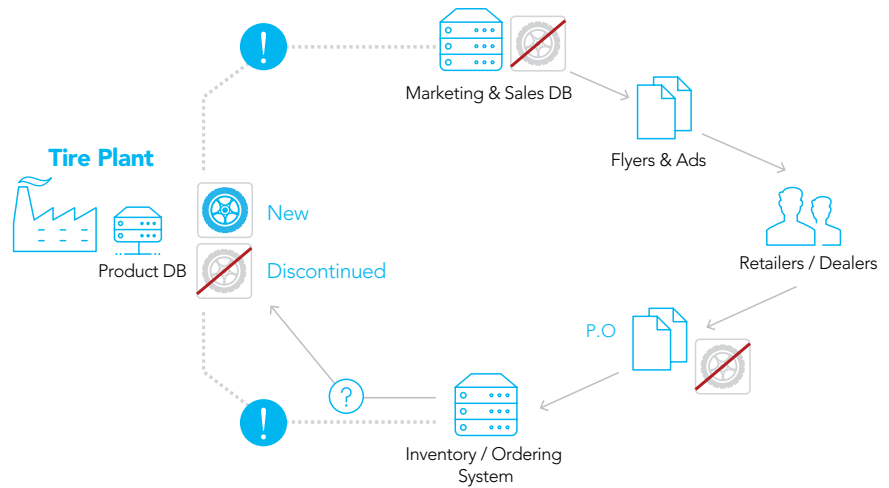


Figure 1: Acme's Disjointed Data Problem

Acme's problems are exacerbated by M&A activity as it acquires one of its rivals and its IT systems and processes. Mergers and acquisitions combined with fast growth and fragmented IT systems will contribute to a degrading of business enterprise operations and invariably compromise data quality due to disparate standards and approaches.

Not having good data is a problem and getting to good data isn't a simple process. But there are some industry proven methods to create a strategy of having good data in the organization:

- **Implement strong data governance:** The ability to systematically control and holistically manage the propagation of enterprise data standards
- **Procure a versatile Master Data Management (MDM) platform:** One company-wide MDM solution that can solve many problems stopping MDM stovepipes
- **Incorporate MDM into the business process:** Acme's MDM solution needs to be part of its business processes—not separate from them

Let's look at these areas in more detail:

Implement strong data governance

Acme's adoption of MDM will include aligning its data governance standards with MDM's functional life cycle. This life cycle begins with introspection of enterprise data models, which in turn ensure standardized structures for data acquisition (or data imports) to bring enterprise data uniformly into the MDM hub. These same structural, data standards will be used for consistently maintaining preexisting data and the creation new good data. Upon MDM's validation of Acme's standards for data governance, good, consistent data will be deployed and synchronized back to the systems of origin.

Acme's data governance or MDM life cycle would include:

- Rule-driven importing against the data model structure to provide uniformity for disparate systems
- A schedule for when data from enterprise systems should be synchronized into the MDM hub, or repository
- Segregating failed imports for additional data governance
- Rule-based cleansing, matching and data validation for merged data
- Triggered workflow for specific, use-case data stewardship
- Governance of hierarchies and data relationships
- Approval of good data, and synchronization of good data back to systems of origin, enabling end-users to consume data through exports and report creation
- Providing the flexibility of propagating data to external end-users through Web-based portlets, mobile devices and cloud integration

Procure a versatile MDM platform

Acme’s MDM platform should be non-restrictively supportive of multiple data sets and its use cases. Multi-domain master data, reference data or code sets, hierarchies and metadata should be manageable and interrelatable within one solution. This is because real business requirements don’t stop at the edge of a given subject area. Acme’s customers have locations and products, businesses have employees, inventories and suppliers—and all must be integrated with consistent code sets, hierarchical relationships and valid business terms and definitions. And then there’s MDM’s key role in process-improvement initiatives. In this context, the more flexible and versatile the MDM solution, the more readily the solution’s good data will be available to support critical business projects.

Incorporate MDM into the business processes

MDM projects have a long history of being owned and executed by IT with little business involvement. But while IT knows best how to identify and fix the incongruences of physical data, data architects probably don’t understand the core business reasons for data’s inconsistencies. For example, data modeling is a highly coveted, technical skill in IT. But even the best data modelers would admit to being lost without a business stakeholder advising them as to what business attributes and relationships need to be modeled.

Some of the pitfalls in IT-driven MDM include:

- Failing to synchronize IT planning with business objectives, thereby marginalizing the MDM project
- Failing to understand the business interdependencies between systems
- Ultimately failing to even launch MDM because IT lacks business sponsorship

Clearly, however, business has written the check for many failed MDM implementations. Some fail for strictly technical reasons. Others fail because the company has not embraced any or all of the three pillars of MDM:

- MDM is a business–driven discipline supporting process optimization or transformation
- MDM program scope is directly driven by process optimization needs, and MDM investments are tied to and measured by process improvement ROI
- MDM should follow a cross-disciplinary approach involving stakeholders from different functions or business areas impacted by the optimized process

From a tactical point of view, any IT initiative around MDM is best served by understanding how substantive data improvements, or the creation of MDM’s single-view of a master record, will benefit business processes.

Conversely, business process improvement initiatives should be directly tied to MDM and data improvement. Not only is the success of these initiatives (such as customer 360, customer on-boarding and supply chain optimization), tied to good and consistent data, but their overall implementation is dependent on engaging the correct business systems and data sets (see Figure 2).

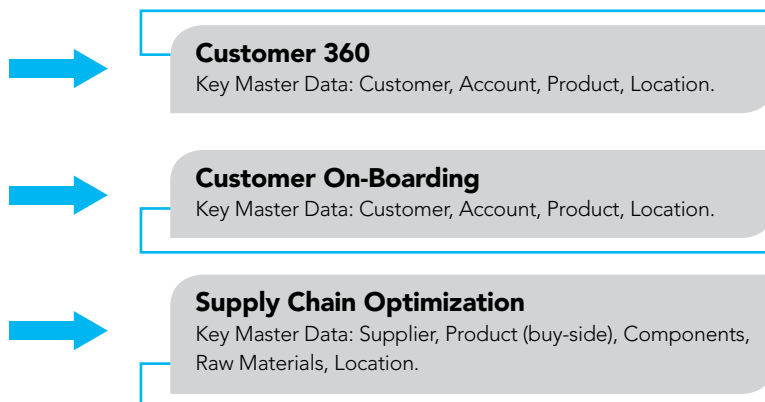


Figure 2: Matching Business Systems with Data Sets

Software AG offering – webMethods OneData

webMethods OneData is a leading tool supporting process-driven MDM, and the only solution in the market that provides five data management solutions—out-of-the-box—in one data management platform. This is a highly versatile and cost effective way of implementing single or discrete data management solutions, while at the same time, providing the option to interrelate any or all five OneData solutions.

OneData and data governance:

This value proposition is built on the foundation of OneData’s solution-shared functionality and administrative functions, supporting the entire MDM life cycle:

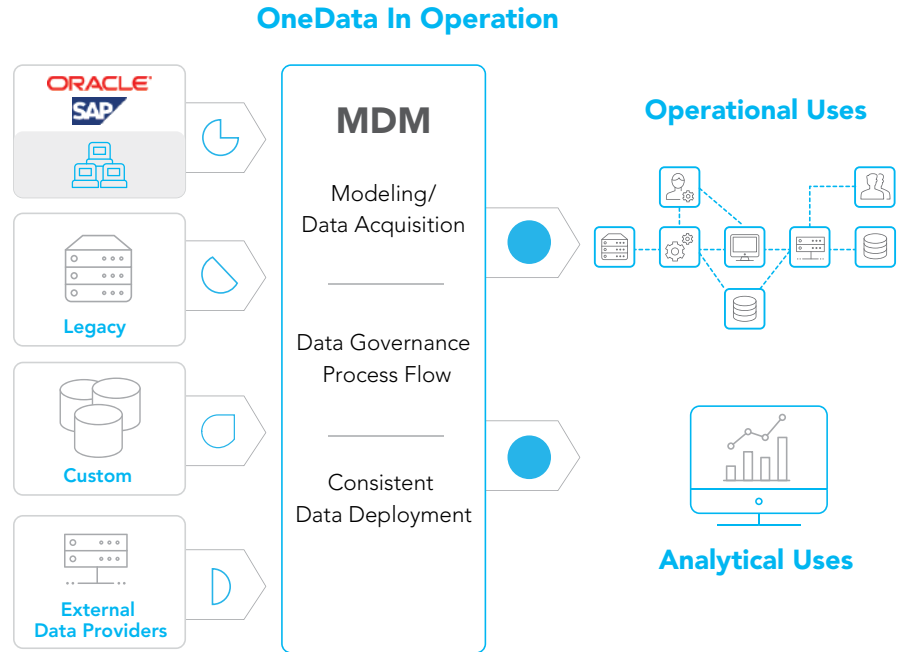


Figure 3: How OneData Works

Modeling/data acquisition

OneData offers comprehensive integration support for existing external standards and protocols. This enables flexible and configurable connectivity with third-party data modeling tools, other data management tools, subscription data sources, databases, applications and ERP systems.

Data governance process flow

OneData’s governance paradigm is a highly configurable and tightly integrated melding of model-based and rules-driven import, merging, data cleansing and matching, data validation, role-based security and stewardship controls. A highly collaborative, rules-driven workflow/approval process enables the creation of multiple routings and layers triggered by type of data change. Notifications and alerts can be externalized through corporate email—and all data changes and user actions are audited.

Consistent data deployment

Once approved, consistent or gold copy data is migrated from OneData’s staging area to its release area where it can then be deployed downstream in either real-time or in scheduled jobs.

OneData is a completely browser-based and non-intrusive solution. In addition to accessing their own business view within the MDM hub, OneData’s “Consistent Data Everywhere” approach enables end users to filter, search and report on data through portlets in third-party applications or internal and external intranets. This flexibility now extends to iPad® support.

OneData: Multiple MDM Solutions

- **Multi-domain MDM**

OneData's calling card is its open, pluggable architecture, which allows the UI experience to be driven and configured by any subject data model. OneData's "drop-in" modeling strategy provides quick time-to-value by leveraging organizations preexisting data modeling tools and subject domain expertise (party/product/location). Since OneData supports multiple MDM implementation styles, organizations can choose the most effective MDM hub deployment architecture to support their specific domain and use case requirements (e.g., consolidation style for customer, centralized style for product, etc.).

- **Customer Data Management (CDI)**

Architected to support the complete CDI process flow, OneData's customer data management framework allows the merging of multiple source systems into the OneData hub where customer data consolidation for cleansing, address verification and geocoding take place. Workflow can then be triggered when matching thresholds are exceeded and records cannot be successfully matched. Hierarchy management (or affiliation management) tracks, models and manages relationships between products, customers and locations.

- **Reference data management**

OneData's non-restrictive architecture is ideal for the modeling and harmonizing of reference data. Code sets can be created and enriched against third-party validation sources (e.g., Dun & Bradstreet®, ACORD®, etc.). OneData's data interchange function facilitates mapping or cross-walks between external and internal reference datasets. This is further supported by OneData's multiple change management and versioning capabilities. Like all OneData data objects, reference data can be delivered in multiple ways to enterprise customers across internal and external business units.

- **Hierarchy management**

While OneData's hierarchy management capability is often aligned as a complementary function within any OneData solution or use case (multi-domain, customer, reference data, MDR), certain webMethods customers utilize the OneData platform exclusively for managing critical relationships among data items. With no restrictions on the modeling of hierarchical structures (e.g., level, alternate level, recursive, network recursive), or limitations to the number of nodes OneData can manage, companies have adopted OneData's hierarchy management solution for exclusive support of chart-of-accounts and affiliation management. Additionally, OneData's hierarchy management function is completely supported through OneData's governance framework, including granular stewardship controls, change management/versioning and workflow.

OneData's process-driven MDM

Based on its flexible, multi-solution support provided in one data management platform, as well as its ability to readily integrate across enterprise applications and data bases, OneData is recognized as a leading process-driven MDM platform. Its pluggable architecture allows OneData to incorporate third-party external data sources within its MDM life cycle, as well as utilizing preexisting data management tools. In other words, OneData makes itself a valuable player and essential component in any business process improvement initiatives.

To review, what makes webMethods OneData MDM a process-driven platform?

- Multi-domain, supporting multiple data sets and subject areas
- Supports enterprise data models without vendor lock-in
- Non-restrictive, non proprietary architecture
- Interrelates data management use cases, including reference data, hierarchies and metadata
- Freely integrates with all systems housing shareable, enterprise data

webMethods OneData also supports process improvement in conjunction with other Software AG tools, including direct integration with ARIS for business process analysis and webMethods BPMS, which can be used to externalize the full capabilities of OneData's workflow function.

Conclusion

Efficient and effective business processes, comprehensive and timely delivered strategic decision support, reduced time-to-market and customer satisfaction levels can literally rise and fall on the quality of available good data and the ability to realize a single and definitive view of the master record—whether it be customer, product, supplier, vendor, employee or location.

For more than a decade, MDM has evolved to meet those challenges. But as companies better understand MDM's purpose and promise (particularly on the process-driven side of the tool), MDM will be required to show even more flexibility and a greater ability to adapt to business churn and other new technologies.

In this respect, webMethods OneData is well positioned to support the next generation of both new business and future data management requirements.

Even right now, OneData's cutting-edge versatility goes well beyond what's available in the current MDM market:

True multi-domain

webMethods OneData's approach to multi-domain goes beyond the placement and coexistence of multiple subjects in the same repository or hub. OneData, in fact, enables the logical and physical interrelation between various subject areas through the connection of multiple subject-areas (or data objects), into one or more conceptual objects. This empowers companies to manage salient business data relationships from a real-world perspective. Additionally, OneData is the only MDM platform supporting five different, essential solutions supporting an unlimited number of data management use cases.

From the ground up, data governance

Data governance in webMethods OneData is more than a module. It is a pervasive state-of-being where all data acquisition, all data changes, and all data management stewardship are tightly controlled and directed through a multi-functional, rules-driven process. Like all OneData functionality, however, OneData's governance core is highly configurable and readily adaptable to business requirements and best way of supporting those requirements in the tool.

Process-driven MDM

Finally, as MDM and good, consistent data are increasingly recognized as a fundamental foundation to process business improvement, webMethods OneData stands ready to meet those evolving requirements. Whether process improvement initiatives are project-generated, or are more ambitiously driven at an enterprise level, OneData's versatile and comprehensive MDM technology can play a critical role for success.

Take the next step

Could your business benefit from good, consistent data to reduce costs and errors and ultimately improve customer satisfaction? Talk to your Software AG representative to learn how webMethods OneData can be applied to your business. Or for more information on OneData, visit www.softwareag.com/mdm.

ABOUT SOFTWARE AG

The digital transformation is changing enterprise IT landscapes from inflexible application silos to modern software platform-driven IT architectures which deliver the openness, speed and agility needed to enable the digital real-time enterprise. Software AG offers the first end-to-end Digital Business Platform, based on open standards, with integration, process management, in-memory data, adaptive application development, real-time analytics and enterprise architecture management as core building blocks. The modular platform allows users to develop the next generation of application systems to build their digital future, today. With over 45 years of customer-centric innovation, Software AG is ranked as a leader in many innovative and digital technology categories. Learn more at www.SoftwareAG.com.

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