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**Introduction to Master Data
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(MDM): Part 2**

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Introduction to Master Data and Master Data Management (MDM) (PART 2 OF 2)

By Mani Kumar Manda, Rhapsody Technologies, Inc.

This article is the second of a two-part series. Part 1 provided an overview of what Master Data is and discussed the challenges associated with managing Master Data. Part 2 concludes the article with a look at the art and science of Master Data Management and shares insights into the latest innovations in process and technologies. Part 1 appeared in the spring 2012 *OAUG Insight* magazine.

The difficult nature of Master Data requires more active management using people, special tools and technologies while establishing methodologies and procedures to deal with it in an effective manner. The art and science of managing Master Data at an optimal level that is consistent, accurate and available when needed is known as **Master Data Management (MDM)**. The most common domains of MDM are focused on **customer, product and supplier**, in that order as determined by how frequently solutions to address these domains are put in place.

Gartner defines MDM as "... a technology-enabled discipline in which business and IT work together to ensure the uniformity, accuracy, stewardship, semantic consistency and accountability of the enterprise's official, shared Master Data assets. Master Data is the consistent and uniform set of identifiers and extended attributes that describes the core entities of the enterprise, such as customers, prospects, citizens, suppliers, sites, hierarchies and chart of accounts."

Wikipedia defines MDM as "... a set of processes and tools that consistently defines and manages the non-transactional data entities of an organization (which may include reference data). MDM has the objective of providing processes for collecting, aggregating, matching, consolidating, quality-assuring, persisting and distributing such data throughout an organization to ensure consistency and control in the ongoing maintenance and application use of this information."

Some of the key objectives and activities associated with successful MDM deployments may include:

- Establishing the single source of truth for Master Data — in other words, a system of record (or reference) that is reliable, available when needed and always maintained.
- Defining and managing metadata.
- Consolidating, de-duping and cross-referencing the Master Data across heterogeneous systems to establish a single view of the Master Data.
- Optionally enriching Master Data using third-party content.
- Synchronizing Master Data with heterogeneous systems to ensure that every application has and uses a consistent set of Master Data.
- Establishing a data governance framework for the welfare of the Master Data solution by defining roles and responsibilities as well as policies and procedures to steward the Master Data on an ongoing basis.

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- **Facilitating the definition and maintenance of analytics and segmentation in order to drive growth in top line (revenue) and bottom line (profits) by increasing the effectiveness of various business processes.**
- **Providing a 360-degree view of the Master Data.**
- **Increasing operational excellence across the enterprise.**
- **Accomplishing all the above based upon a synergistic alliance between business and IT.**

There are many drivers that cause organizations to embark on the MDM journey that are separate from the need to solve the challenges discussed earlier in this article. The most common drivers are represented in **Figure 1.**

Most mid to large organizations require solutions to manage Master Data. Before beginning an MDM initiative, a proper business case should be made that identifies in monetary terms the costs of implementing an MDM program as well as the resulting benefits. As a guideline, any organization can make a business case to justify investment in an MDM program when many of the criteria listed below exist:

- ✓ Multiple business lines.
- ✓ Heterogeneous application landscape:
 - Multiple masters.
 - Multiple downstream applications that need to be synchronized.
 - Incomplete view of Master Data in any single application.
- ✓ Geographic-specific applications.
- ✓ Fragments of inaccurate, incomplete and inconsistent data residing in application silos.
- ✓ Inorganic growth through acquisitions.
- ✓ Businesses subject to regulatory and/or privacy compliance.
- ✓ A publicly held company.

Implementing an MDM program provides numerous benefits – both hard and soft – to an organization.

The most common hard benefits are obtaining consistent and accurate Master Data coupled with a 360-degree view of it and enhanced capabilities to meet regulatory and privacy laws. Organizations that grow through acquisitions can immensely benefit by being able to assimilate acquired companies quickly into the organization due to the existence of an MDM program.

The most common soft benefits are increasing efficiency and effectiveness in business processes that result in cost savings, improved customer satisfaction due to higher retention rates, better ability to identify a target pool of prospects/customers for marketing campaigns and, most importantly, increasing the wallet share of the customer.

In general, MDM technologies can be classified as application-centric technology solutions in which a separate application is purpose built for each of the

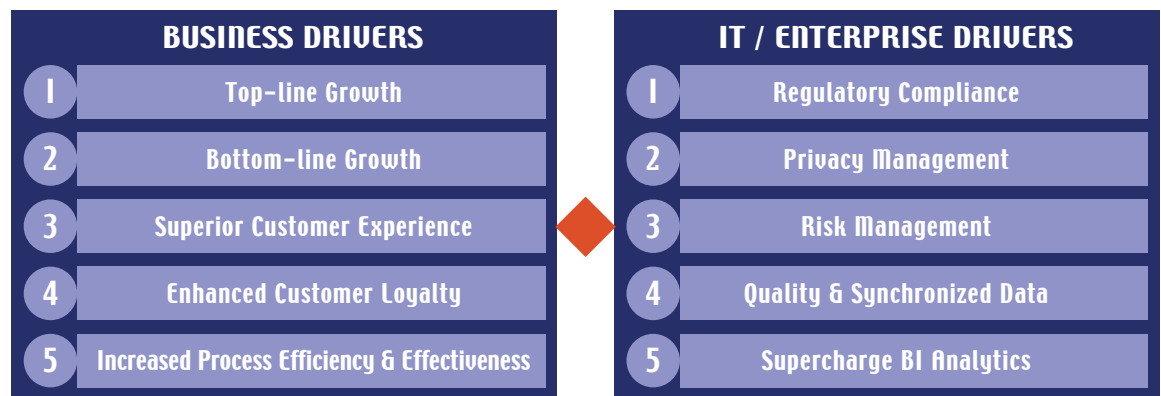


Figure 1: MDM Drivers

Master Data domains (or core entities, per Gartner) or as a technology platform in which all Master Data domains can be addressed by one tool set.

The packaged software vendors such as Oracle and SAP believe in the application-centric approach and released one purpose built MDM application (more than one in some cases) per Master Data domain. For example, Oracle has MDM applications such as Oracle Customer Hub, Oracle Product Hub, Oracle Site Hub, Oracle Supplier Hub, etc. The primary argument for companies that have solutions belonging to this approach to MDM is that they consider each MDM domain to be unique, and the challenges that need to be addressed are unique, even though many of the MDM principles, concepts and methods are the same for all Master Data domains.

“ MDM doesn't replace CRM, ERP, BI or analytics.

MDM makes CRM, ERP, BI and analytics work better. ”

In the application-centric approach, though multiple MDM applications were developed, underlying technology architecture, use of technology tools and the principles used to build these applications are all the same and are based on decades of experience that Oracle and SAP have acquired in building ERP, CRM and HRMS applications. Software vendors such as IBM, Informatica, TIBCO and others sell their solutions to address Master Data challenges as a technology platform.

Each approach taken by software vendors has its own benefits and challenges. It is important first to identify all Master Data domains for which an organization needs the help of technology to manage prior to making a decision on which vendor's solution(s) to buy.

Oracle's MDM Footprint

Oracle has organically (internally) built many of its MDM Hubs and added some through acquisitions, with most of them adopting an application-centric approach. One application/product that Oracle acquired through its Hyperion acquisition, named Hyperion Data Relationship Management (Hyperion DRM), subscribes to a technology-platform-centric approach. However, Hyperion DRM is positioned to be a Chart of Accounts (COA) Hub, enterprise level Reference Data Hub and a Hierarchy Hub that can be leveraged in both operational and analytical applications.

Oracle's MDM applications are built on one of the following four technology stacks (See Figure 2):

- Oracle E-Business Suite Platform.
- Oracle Siebel CRM Platform.
- Oracle Fusion Applications Platform.
- Hyperion DRM Technology.

Oracle has four hubs based on the Oracle E-Business Suite (EBS) technology stack, one hub based on the Siebel CRM technology stack and two hubs based on the Fusion Applications Stack. Oracle is expected to be adding more hubs in the next version of Fusion Applications, with Supplier Hub being the most likely hub next. Oracle's Hyperion DRM, as a technology platform, is used as COA Hub, Reference Data Hub as well as Hierarchy Hub to address both analytical and operational use cases.

When an MDM Hub(s) based on Oracle's flagship EBS is installed, the task actually entails the installation of Oracle EBS with one or more MDM Hubs enabled per license agreement during installation. This approach provides the ability to use an application built for a specific Master Data domain and also provides the ability to implement multiple MDM Hubs (multi-domain MDM solution) in a single instance if so desired. This architecture also facilitates the engagement of future development in MDM technologies that is expected to provide significant functionality in the area of cross-domain use cases.

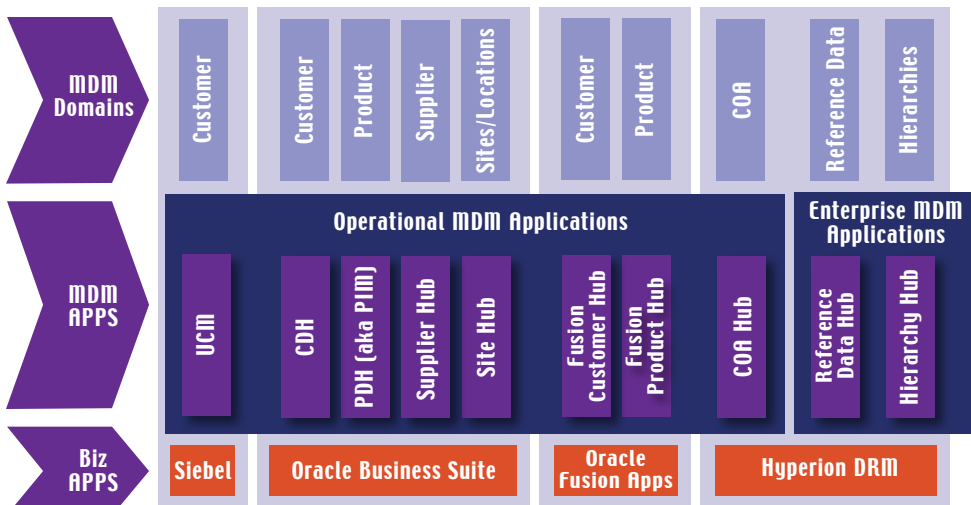
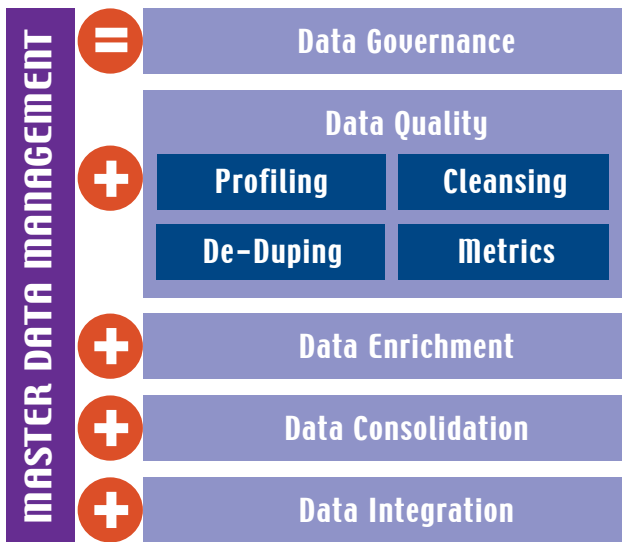


Figure 2: Oracle's MDM Footprint

MDM Best Practices

In implementing MDM programs, one can learn a lot from well-known best practices such as obtaining executive support, use of data quality tools, establishment of data governance framework, etc.

A detailed discussion of MDM best practices is a topic for another day. However, here are a few of the best practices: Organizations also need to look for additional supporting solutions such as data-quality technologies like Oracle Enterprise Data Quality,



Trillium, Informatica, etc., and content enrichment providers – both general providers such as D&B and Info USA, and industry-focused providers such as VeriSpan (healthcare industry), epsilon (retail industry), dataone software (automotive industry), etc.

In addition to the use of MDM and data quality technologies, success in MDM programs greatly depends on the establishment of a data governance program (most recommended best practice) that focuses on data, people and processes while incorporating this initiative into an overall IT governance framework that might already exist.

Conclusion

MDM is a discipline/philosophy that requires executive sponsorship and a synergistic alliance between business and IT. Furthermore, deploying MDM within the enterprise requires the establishment of roles, responsibilities, policies and procedures; the pursuit of data quality; and the integration of Master Data technologies to establish a Master Data program that an organization can rely on in its day-to-day business operations. In layman’s terms, Master Data Management can be simplified into the formula shown in **Figure 3**.

In essence, MDM doesn’t replace CRM, ERP, BI or analytics. MDM makes CRM, ERP, BI and analytics work better. 🌐

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8. To receive an Oracle CDH Poster, send an email to “OracleMDMPster at RhapTech DOT com.”

Websites and Discussion Forums

OAUG CDM SIG

<http://groups.yahoo.com/group/cdmsig>

<http://cdmsig.oaug.org>

Rhapsody Technologies, Inc.

<http://www.rhaptech.com>

<http://www.rhaptech.com/resources.html>

Product Data Quality

<http://tinyurl.com/29xocwv>

Supplier Life Cycle Management

(SLM) and Supplier Data Hub (SDH)

<http://tinyurl.com/2v2yyct>

Oracle Fusion Applications

<http://tinyurl.com/3232emw>

MDM Summit and several local Geo and SIG groups. Mani has developed a proprietary RHYTHM Methodology that significantly increases the “success factor” for all MDM implementations. Mani can be reached at mmanda@rhaptech.com.

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