



SAP NetWeaver MDM for Enterprise MDM

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Abstract: Master data management (MDM) provides an access to the consistent views of an organization's master data. Master Data Management (MDM) refers to establishing reliable and an authoritative foundation for data used across many applications and constituencies with the goal to provide authoritative, accurate and timely information. The management of the fundamental data building blocks that are shared across multiple business transactions, analytics and reference entities. Master Data Management is the application of policies, procedures, standards, governance, and tools needed to create, maintain, and share high-quality reference or master data throughout an enterprise. In this paper, I provide a study of SAP NetWeaver MDM and overview of SAP road map for Enterprise MDM. It is believed that the study presented in this paper would benefit you to store, consolidate, and enhance master data by improving, change management, data quality, data governance, and alignment with business goals.

Keywords: NetWeaver, Enterprise, SAP road map, Data Governance

I. INTRODUCTION

Master data management (MDM) can help companies' better leverage their corporate data by providing internal processes and tools for ensuring that data is consistent across all systems. MDM, which often includes data governance and data quality initiatives, is known as a challenging discipline. But its focus on harmonizing master data on an enterprise-wide basis has paid off for many early adopters. Master Data Management is focused on creating and managing an authoritative system of records about customers is the subject of the MDM variant known as Customer Data Integration (CDI). This term, however, may be misleading in that it may create an impression that CDI only deals with customer information where customers are individuals who have predefined, known, usually account-based relationships with the enterprise. In fact, even though CDI stands for Customer Data Integration, the word "Customer" is used as a generic term that can be replaced by industry or line-of-business-specific terms such as: Client, Contact, Party, Counterparty, Patient, Subscriber, Supplier, Prospect, Service Provider, Citizen, Guest, Legal Entity, Trust, Business Entity, and other terms. MDM-CDI solutions are gaining significant momentum, largely because of their ability to help organizations achieve critical cross-functional business imperatives to bolster profitability, reduce operational costs, and adhere to regulatory compliance. Companies have come to realize they can't achieve these cross-functional business imperatives without real-time Integration. Most people believe that MDM-CDI is expected to provide a "single version of the truth," through a comprehensive and complete data consolidation into a single repository. However, a more transparent view of the main objective of MDMCDI is to embody the core services necessary to support business applications' needs to access a high quality, synchronized, and consistent view of uniquely identifiable master data objects that are used across the enterprise.[8] Master data is data about the key business objects in a company. Those are also unambiguously defined and uniquely identified across the organization [9]. Master data includes the business objects, definitions, classification, and terminology that constitute business information [10]. According to Loser [11], master data forms the basis for business processes. Master data management (MDM) tackles data issues by concentrating on the business processes, data quality, and the standardization and integration of information systems (IS) [12]. MDM defines the most trusted and unique version of important enterprise data (e.g., customer, product, employee, location) [13]. MDM is often seen as a technical term, even though the literature states the challenges are mostly concerned with people in the organization [14]. MDM follows an application-agnostic approach trying to define and maintain consistent definitions of master, and to enable its sharing across the organization's multiple IS [15].

SAP NetWeaver Master Data Management (SAP NW MDM) is a component of SAP's Netweaver product group and is used as a platform to consolidate, cleanse and synchronize a single version of the truth for master data within a heterogeneous application landscape. It has the ability to distribute internally and externally to SAP and non-SAP applications. SAP MDM is a key enabler of SAP Service Oriented architecture. Standard system architecture would consist of a single central MDM server connected to client systems through

SAP Exchange Infrastructure using XML documents, although connectivity without SAP XI can also be achieved. There are **five standard implementation scenarios**:

1. **Content Consolidation** - centralized cleansing, de-duplication and consolidation, enabling key mapping and consolidated group reporting in SAP BI. No re-distribution of cleansed data.
2. **Master Data Harmonization** - as for Content Consolidation, plus re-distribution of cleansed, consolidated master data.
3. **Central Master data management** - as for Master Data Harmonization, but all master data is maintained in the central MDM system. No maintenance of master data occurs in the connected client systems.
4. **Rich Product Content Management** - Catalogue management and publishing. Uses elements of Content Consolidation to centrally store rich content (images, PDF files, video, sound etc.) together with standard content in order to produce product catalogues (web or print) has standard adapters to export content to Desktop Publishing packages.
5. **Global Data Synchronization** - provides consistent trade item information exchange with retailers through data hubs (e.g. 1SYNC) [1]

Customers are choosing SAP NetWeaver MDM because it is the only one solution for all master data in the industry specific process. The foundation for perfect SAP master data management optimize and automate SAP data management tasks and rely less on manual work by: Deploy data upload tools that eliminate manual data entry, implement workflows that automatically collect data from multiple stakeholders, Utilize smart interfaces that validate the data at the point of entry. This will move you from delays and errors to a world of speed and accuracy. [16]

An ASAP Roadmap represents a comprehensive methodology that provides you with all the steps needed to implement an SAP System. The standard Implementation Roadmap has five major phases. Each phase represents a major milestone in the project plan methodology, and contains specific structure elements.

The Implementation Roadmap provides a standard repeatable procedure for implementing an SAP System, including project management, configuration of business processes, as well as technical, testing and training aspects. [4]

This diagram shows about right solution, we are having and some assumptions, planned innovations to give some output in the form of future directions. SAP roadmap for Enterprise MDM has three main components

- Solution today
- Planned innovation
- Future direction

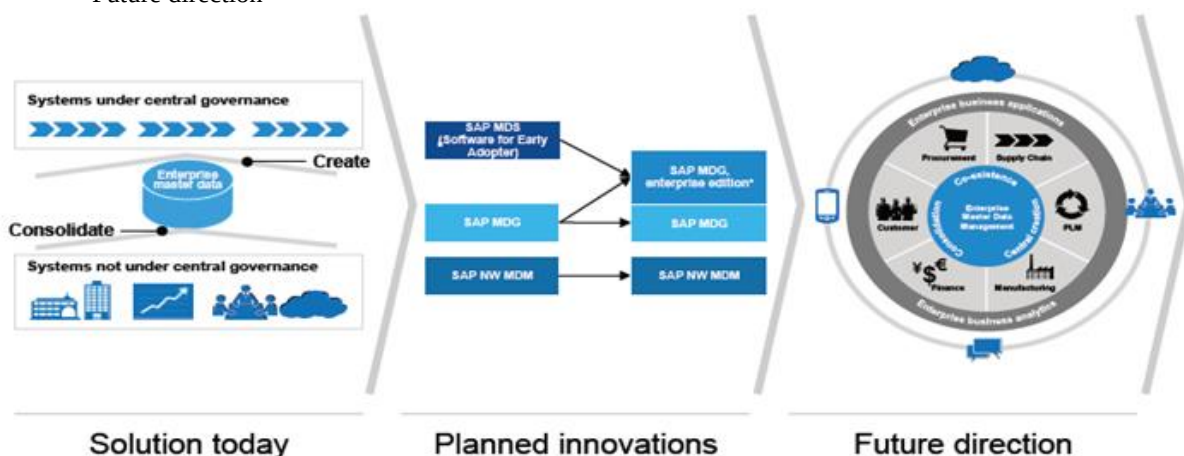


Figure 1: Enterprise MDM Components [5]

Intel Master Data Direction- It determines the best for record of origin. The data will be either related to or location data. In finance data currently there is a use of SAP R/3 as a single record of origin. There are minimal gaps and meets business needs. Therefore moves to **SAP Enterprise Central Components (ECC)**. In location data SAP R/3 works well but has data gaps such as status codes, type codes, therefore it will also move to SAP Enterprise Central Component. To overcome the problem of data gaps SAP NetWeaver MDM is build, it utilize SOA to glue them together.

SAP NetWeaver MDM will run on Intel® Architecture- SAP Netweaver MDM will run on Intel® Architecture ie. Certified on 64-bit Intel® Xeon® processor. Following are the benefits.

- Premier performance, scalability, and the highest reliability at a fraction of the cost of proprietary systems
- Integrated, advanced RAS features for highest standards of system availability and uptime
- Greater range of optimized solutions than proprietary platforms support, at a lower cost
- Optimized SAP solutions to run best Intel architecture via massive Intel and SAP engineering investment.

SAP NW MDM Live at Intel since Nov 2006- Started with our logical data models due to Intel specific needs physical data model was build.

- MDM plugged into existing infrastructure where redundant applications will be phased out over time as in-house expertise is gained with new application. Also allow us to identify gaps and work with SAP for closure
- 1.8m Materials, 180K Suppliers = ~\$10-15Bn spend, 6m Customers
- 2007/2008 will see further rollout of MDM to business applications
- When collaborating with SAP on Master Data Service/xApp Leverages MDM Web Services delivered in latest release with 6 month efforts. [4]
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III. RECENT INNOVATIONS

A. Recent Innovation for SAP NetWeaver MDM [4]

Key needs	Key innovations	Release
• Enhanced data model coverage	• Master data governance for material data (materials requirements planning (MRP), purchasing, sales, and accounting data) • MDG for supplier data (partner functions and dunning areas) • MDG for customer data (company code data and sales data) and business-to-consumer support	• SAP ERP 6, SAP enhancement package (EHP) 6, SAP MDG 6.1
• Enhanced business process support	• Enhanced integration with supplier lifecycle collaboration (SLC) • Enhanced integration of SAP Master Data Governance with material data in cross-system processes	• SAP ERP 6, SAP enhancement package (EHP) 6, SAP MDG 6.1
• Enhanced core platform	• Enhancements of the application foundation of SAP Master Data Governance to enable the above and for improved extensibility • Enhanced integration with SAP Information Steward with additional enhancements for cleansing and merging • Usage of SAP in-memory computing for improved search and matching	• SAP ERP 6, SAP enhancement package (EHP) 6, SAP MDG 6.1

B. Planned innovations for SAP MDG

Key needs	Key innovations
• Fast implementation times through higher flexibility in process and user interface design	• MDG Application Foundation enhancements to allow for enhanced process flexibility and usability
• Ongoing data model innovation and more out-of-the-box content	• Continued data model and usability enhancements (e.g., SAP MDG for Business Partner data targeting industry specific solutions)
• Operational efficiency in bulk processing	• Enhanced mass data handling
• Ability to leverage mobile devices throughout the governance process	• Further enabling of access to MDG via mobile devices

C. Planned innovations for SAP MDG, enterprise edition*

Key needs	Key innovations
• Big Data (e.g., growing volume, complexity, and velocity of master data and related attributes such as for Social MDM, Location, etc.)	• Innovate with SAP HANA as the high volume data platform
• Evolve from multi-domain to multi-vector MDM (i.e., single solution for all domains, use cases, organizational models, and implementation styles)	• Extend SAP MDG beyond central create scenarios to include consolidation/co-existence use cases, as well as embedding master data services in SAP HANA

D. Planned innovations for SAP NetWeaver MDG (SP 10)

Key needs	Key innovations
Enhanced integration with SAP Information Steward and SAP Data Services	Integration with SAP Information Steward and SAP Data Services for integrated cleansing, matching, and data profiling – by using DB-Views.
Enhance web-user capabilities	- Export and import (records, fields types) - Sorting (matching results). - Finding data easily (lookup auto-suggest items).
Enhance Security of NW-MDM	Strong password support
Workflow administrator capabilities	email based on data field
Enhanced hierarchy management	Ability to maintain many different hierarchies for a master data domain
Enhanced catalog management	Mass product information editing / mass maintenance

IV. CONCLUSION

SAP NetWeaver Master Data Management enables enterprises to maintain the integrity of their MD and get the most value from it. SAP NetWeaver MDM's related IT scenarios support organizations from a variety of industries to consolidate and harmonize MD, even across heterogeneous landscapes. As a result, companies can make strategic decisions with confidence, knowing they are relying on accurate, consistent data. And they will have the foundation in place to move effectively toward a service-oriented architecture. SAP will continue to develop its scenario-driven approach to SAP NetWeaver MDM; our product definition, product management, and software development teams are collaborating to further enhance the product according to market requirements. They'll also evaluate new scenarios and business content for integration with the next major release of SAP NetWeaver MDM.[7]

REFERENCES

- https://en.wikipedia.org/wiki/SAP_NetWeaver_Master_Data_Management
- http://SAP_NetWeaver_Master_Data_Management%3a_Leverage_MDM_in_ERP_Environments.pdf
- http://www.sourcemediaconferences.com/CDISP07/pdf/Jonas_Mehta.pdf
- http://help.sap.com/saphelp_46c/helpdata/en/fb/44a33893213026e10000009b38f8cf/content.htm
- <https://www.sap-sbn.no/en/download/246>
- <http://wiki.scn.sap.com/wiki/display/SAPMDM/Getting+started+with+SAP+NetWeaver+MDM>
- <http://sapinsider.wispubs.com/Assets/Articles/2007/July/Misaligned-Master-Data-Is-A-Compromised-Corporate-Asset-Streamline-Master-Data-In-Heterogeneous-Land>
- <https://www.melissadata.com/enews/articles/05132010/master-data-management.pdf>
- B. Otto, "How to Design the Master Data Architecture: Findings from a Case Study at Bosch". International Journal of Information Management, (32)4, 2012, pp. 337–346.
- C. Snow, "Embrace the role and value of master data management", Manufacturing Business Technology, Vol. 26, 2008, pp. 38-40.
- C. Loser, C. Legner, and D. Gizanis: "Master Data Management for Collaborative Service Processes", in: Proceedings of the International Conference on Service Systems and Service Management, Chen, J. (ed.), Beijing 2004.
- R. Silvola, O. Jaaskelainen, H. Kropsu-Vehkapera, and H. Haapasalo, "Managing One Master Data – Challenges and Preconditions". Industrial Management & Data Systems, 111 (1), 2011, 146-162.
- R. Karel, C. Mines, R. Wang, K. McNabb and J. Barnett. Introducing Master Data Management. Forrester Research, Cambridge, 2006.
- S.W. Ambler: "Agile strategies for Master Data Management". Vol. 20, 2007, pp. 18-22.
- A. Maedche, "An ERP-centric master data management approach". AMCIS 2010. 2010, paper 384.
- <http://www.winshuttle.com/sap-master-data/>
- <http://www.infosys.com/manufacturing/resource-center/Documents/SAP-master-data- management-solution.pdf>

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