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The master data challenge
- Why is master data management important?

Enterprise master data management with SAP Master Data Governance
- Concept, deployment, integration, benefits

Functional overview of SAP Master Data Governance
- Key scenarios (consolidation, central governance incl. mass processing, data quality remediation)
- Integration within and beyond company boundaries

Outlook and summary
Tackling the master data challenge
Typical structural business challenges
Master Data Management is an integral part of the solution

Mergers & Acquisitions
Acquisition, joint venture

Divestitures
Business area organized as independent company, subsidiary spun off, part of company sold

Corporate restructuring
Change organizational units in landscape accordingly

Business process optimization
Adapt processes in systems, unified accounting, master data cleansing

Consolidate IT landscapes
Merge systems, harmonize system landscape, provide cross-system functions, reduce TCO

Ongoing business dynamics and one-off events like M&A, divestitures or corporate restructuring inevitably trigger activities to improve and harmonize master data across the enterprise
Typical business process challenges
Master Data Management is an integral part of the solution

Operational excellence across LoBs is always fueled by consistent master data helping to avoid process disruptions and unreliable analytics.

- **Sales Effectiveness**
  - Consolidated customer view across all channels
  - Transactions driven by full picture of the facts
  - Collaborative sales and promotion planning

- **Supply Chain Efficiency**
  - Enabled real time collaboration with partners in supply chain and product development
  - Faster throughput of higher volumes through supply chain to the end customer

- **Procurement Decisions**
  - Transparent picture of suppliers and products
  - Cost savings due to fact-based supplier selection and rationalization

- **Optimized Asset Utilization**
  - Ability to use technical assets to capacity
  - High product quality due to well maintained production systems
  - Minimized safety risks for maintenance staff and operators

- **Readiness for Change**
  - Readiness to cope with information needs from IoT and Big Data
  - Ability to exchange trusted master data with business partners
  - Ability to respond to mobile needs

- **Finance Effectiveness**
  - On-time group closes
  - Accurate IT resource planning
  - Business flexibility

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All lines of business
Are impacted by master data quality issues

Organizations and Roles

- Financials
  - CFO
- IT
  - CIO
- Sales
  - (S)VP of Sales, (S)VP of Marketing
- Supply Chain
  - VP of Supply Chain, VP of Planning

Challenges

- Inconsistent financial master data across the enterprise
- Manual efforts to update financial master data in local financial systems
- Risk of non-compliance to IFRS, SOX etc.
- Slow group closes
- Lack of transparency about changes (who, what, when, why)
- High master data maintenance costs
- Need for multiple systems to manage master data in different domains
- Lack of flexibility in dynamic business environments
- Lack of consistent consolidated view of customer data across all channels
- Customer transactions are compromised due to a limited view of the facts
- Lack of transparency relating to suppliers and products
- High costs due to insufficient supplier selection and rationalization
- Loss of potential for benefit realization (i.e. discounts, conditions, central contracts)
- Limited availability of up-to-date master data in my business network
Typical approaches to master data management
Central governance and distribution / de-central ownership and consolidation

SAP Master Data Governance – central governance
Create master data in line with business processes (such as integrated product development or supplier management)

Enterprise master data

SAP Master Data Governance – consolidation
Consolidate master data into a single view for accurate analytics and operational insight (continuously or on request, such as for initial load or mergers and acquisitions)

SAP Master Data Governance – data quality management
Manage master data quality by defining, enforcing, monitoring, and improving quality

All typical approaches are supported: central governance with distribution, decentralized ownership with consolidation, data quality monitoring with remediation
SAP Master Data Governance
Consistent high-quality master data for your entire organization

SAP Master Data Governance is a state-of-the-art master data management application, providing preconfigured, domain-specific master data governance to monitor and remediate eventual data quality issues, to centrally create, change, and distribute, or to consolidate master data across your complete enterprise system landscape.

There are two versions: SAP Master Data Governance on SAP S/4HANA and SAP Master Data Governance (technically on SAP ERP 6.0).

Central governance or consolidation for consistent master data
- Enables centralized governance, compliance, and transparency of master data during creation and change through integrated staging, approval, and central audit trail
- Delivers consistent definition, authorization, and replication of key master data entities
- Eliminates error-prone manual maintenance processes for master data in multiple systems
- Supports consolidation of decentralized master data in any enterprise system landscape to create best records and key mapping between duplicates
- Optionally combines consolidation with central governance for sustained master data quality

Data quality
- Analyze process quality, manage and monitor data quality, and optionally integrate with SAP HANA smart data quality, SAP Cloud Platform Data Enrichment, or SAP Data Services for quality, enrichment, and remediation

Integration and reuse
- Native integration and openness to integrate 3rd-party services
- Reuse of SAP data model, existing business logic, and configuration for data validation
- Open application to manage your own master data flexibly also for non-SAP environments
SAP Master Data Governance
Tackling the master data challenge with consolidation and central governance

Consolidate master data from de-central sources

SAP MDG

Centrally govern and distribute master data

LoB processes
On-premise systems
Cloud applications
3rd party apps
Other LoB

Get data clean

Mergers and Acquisitions

De-central IT landscape

Cloud

Keep data clean
SAP Master Data Governance

All domains and processes

<table>
<thead>
<tr>
<th>Enterprise master data</th>
<th>Customers</th>
<th>Finance</th>
<th>Vendors</th>
<th>Materials</th>
<th>Products</th>
<th>Assets</th>
<th>Location</th>
</tr>
</thead>
</table>

All use cases and implementation styles

Continuous quality management and remediation
Ensure high data quality by continuously measuring, analyzing and correcting quality issues

Periodic consolidation for analytical purposes
Enable data consistency via consolidation for analytical use cases like global spend reporting

Consolidation for initial load before central governance
Enable data correctness and accuracy via consolidation run before starting central governance

Consolidation for M&A (or for MDG rollout to more regions/units)
Enable data consistency via consolidation every time it comes to an acquisition or, for example, when onboarding master data for more regions, while continuously running central governance

Central governance only
Have clean data at the point of creation or change

Coexistence hybrid approach
Deliberately keep some parts under local ownership with continuous consolidation and some parts under central governance

Key capability
One application for the entire enterprise master data mgmt.

“SAP Master Data Governance aligns with our strategic vision for centralized master data management. Validations can be built in as per our requirements with minimum customization and enhancements. We also improved our operations with standard workflows and a single version of master data.”

Suryanarayana Grandhi
Head of SAP Material Management
Tata Power Company Limited
Benefit: Improve speed and accuracy of analysis

Consolidated and governed master data

“Operational decision makers can plan for the future with real-time spend visibility. Greater focus on the job, means “Excellence Delivered.”

Steven Carter, CIO, C&J Energy Services
Benefit: Reduce risk and simplify compliance

"The solution is ensuring far greater transparency and a much sharper risk focus."

Alex McDonald, AIT Forensic & Compliance Manager, Imperial Tobacco

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Functional overview of SAP Master Data Governance
SAP Master Data Governance, **Data Quality Management**

**Process flow**

**Define Quality**
- Requirements are defined based on your company’s business processes
- Priorities are set according to value, impact, and quality evolution
  - Experts collaborate to define needed quality level and required checks
  - The system helps to identify additional meaningful rules

**Enter Quality**
- Ensure quality at point of entry
  - Consider all entry-points: single changes, mass changes, load scenarios, in daily business, projects, …
  - Rule-based checks in all processes of SAP MDG

**Monitor Quality**
- Operational motivation: detect issues before processes fail
- Tactical: ensure progress and performance of current activities
- Strategic: enable achievements, define new initiatives
  - Easy to consume monitoring and trend reporting

**Improve Quality**
- Correct data and drive the correction process
- Fix data entry processes
- Evolve the definition of quality
  - Tools to fix data and to improve checks at point of entry
Master data quality management
Improve the quality of your business partner and product data

In a nutshell …
Business user application to define master data quality rules, striving for consistent usage across all points of entry and enabling data quality monitoring and remediation.

Business value
Central place for master data quality rules. Providing transparency on business aspects, usages and technical implementations, consistent quality definition, and continuous evaluation and monitoring

- Business partner and product master data covered as packaged applications, and platform for custom-defined objects
- Collaboratively describe, catalog, and implement rules for data quality evaluation
- Schedule quality evaluations, analyze evaluation results and initiate correction of erroneous data
- Get an overview on current data quality status and KPIs
- Allow for drill down analysis of data quality scores along multiple dimensions
SAP Master Data Governance, **Consolidation**

**Process flow**

- **Data Load**
  - Open to SAP HANA smart data integration, non-HANA based SAP ETL mechanisms, non-SAP ETL options, or data import from file

- **Initial Check**
  - View loaded data and check data quality based on backend customizing

- **Standardize**
  - Validate and enrich address data
  - Possibility to connect to 3rd party tools for standardization and enrichment
  - Usage of BRF+ for standardization and enrichment

- **Match**
  - Find duplicates based on customer-specific matching rules
  - Review match result

- **Calculate Best Record**
  - Create “Best Records” based on approved match groups
  - BRF+ can be used for customer-specific Best Record Calculation
  - Review Best Record Calculation result

- **Validate**
  - Validate best records against backend customizing to verify whether records can be activated
  - Validate against ctrl. governance checks (BAdI, BRF+)

- **Activate**
  - Provide consolidated master data for analytical or operational use
  - Option to activate directly, or indirectly triggering post processing using central governance

View loaded data and check data quality based on backend customizing

Find duplicates based on customer-specific matching rules

Create “Best Records” based on approved match groups

Validate best records against backend customizing to verify whether records can be activated

Validate against ctrl. governance checks (BAdI, BRF+)

Provide consolidated master data for analytical or operational use

Option to activate directly, or indirectly triggering post processing using central governance
Master data consolidation
Create a single source of truth of your customer, supplier, and product data

In a nutshell …
Highly effective data consolidation option for master data specialists seeking the single source of truth for customer, supplier, and product data.

Business value
Enable consolidation for customer, supplier, and product data based on intuitive and flexible process with consumer-grade user experience through SAP Fiori user interface

- Highly effective data processing option for master data specialists
- Easy-to-use UI to visualize all data during a consolidation process (drill-down, show changes, match review, best record review)
- Confidence and transparency when loading large volumes of data through statistics, change indicators and ability to validate prior to activating the data
- Configurable matching capability to identify duplicates inside loaded records and against existing records
- Wizard-like UI to upload source data into the system
- Background execution enables users to close the application while processing continues. Users can check the status or proceed with their work later
Mass processing
Effective process to execute mass changes for attributes

In a nutshell…

Highly effective mass change process enabling master data stewards to perform bulk changes in business partner, customer, supplier, and product data.

Business value

- Highly effective data processing option for master data specialists
- Efficiently edit individual fields or make bulk changes by using a tabular UI with the ability to filter and sort data
- Confidence and transparency when changing large volumes of data through statistics, change indicators and ability to validate prior to activating changes
- Packaging, queuing, and parallelization contribute to enhanced performance even when processing large volumes of data
- Upload changed records from CSV or Excel® file to incorporate offline processing and other information sources
- Background execution enables users to close the application while processing continues. Users can check the status or proceed with their work later.
SAP Master Data Governance, **Central Governance**

Process flow

**External Providers**
- Maintain
  - Central maintenance of master data in staging area

**SAP Master Data Governance**
- Validate
  - Re-use existing business logic, integrate external services for data enrichment, address cleansing, duplicate detection, …
- Approve
  - Collaboration
    - Adaptable workflow
    - Auditable change process
- Replicate
  - Automatic replication to non-SAP and SAP systems

**Business Processes**
- Adapt
  - Adaptation / enrichment in local systems
Central master data governance
Create master data in-line with business processes

In a nutshell …
Domain-specific enterprise master data management to centrally govern creation, change, and distribution of master data across your complete enterprise system landscape.

Business value
Out-of-the-box applications and openness to extend the scope

▪ SAP MDG for financial data
  (financial accounting / consolidation data, companies, profit & cost centers)
▪ SAP MDG for supplier data
  (corporate, company, and purchasing related data, partner functions)
▪ SAP MDG for customer data
  (corporate, company, and sales related data, partner functions)
▪ SAP MDG for material data
  (corporate, sales org, plant, storage, warehouse, valuation & costing data)
▪ SAP MDG for enterprise asset management data*
  (equipment, functional location data, MRO bills of material,…)
▪ SAP MDG for retail and fashion management*
  (single & generic article, listings, hierarchies, characteristics for variants,…)
▪ Foundation for flexible adjustments of data models, processes, user interfaces, and to define governance for custom-defined master data objects

* available as Solution Extension for selected SAP MDG releases
SAP Master Data Governance
Application for Enterprise Master Data Management

Out-of-the-box, domain-specific solutions delivered by SAP

Domains implemented by customers using SAP MDG’s extensible application framework

- Warehouse
- Location
- Legal Entity
- Site

<table>
<thead>
<tr>
<th>Customer</th>
<th>Supplier</th>
<th>Material</th>
<th>Financials</th>
<th>Retail Article</th>
<th>Technical Asset</th>
</tr>
</thead>
</table>

Country Code  | Tax Code  | Sales Organization  | Material Group  | Distribution Channel  | Activity Type  |
Order Type    | Bank Code | Currency Code       | Dunning Key     | Divisions            | Commodity Code |

Document Type  | Inco Terms |

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SAP Master Data Governance
Integrated Object Model

Out-of-the-box delivery of proven data models for operational and financial master data

- **Financials**
  - GL Account* / Chart of Accounts
  - Cost Element* / Hierarchies
  - Financial Reporting Structures: Balance Sheet, P&L Statement
  - Cost Center / Hierarchies
  - Profit Center / Hierarchies
  - Internal Order
  - Company
  - Consolidation: Item, Group & Hierarchies, Unit, Break Down Category

- **Material**
  - General Data & Descriptions
  - Units of Measure
  - Quality Data
  - EAN, UPC
  - Classification
  - Document Link
  - Sales Data
  - Plant Data
  - Storage & Warehouse Data
  - Production Version
  - Valuation, Costing, Material Ledger

- **Supplier & Customer**
  - Business Partner Attributes
    - Central Data
    - Bank Details
    - Tax Numbers
    - Addresses with Usage and Versions
    - Business Partner Relationships
  - Supplier Attributes
    - General Data
    - Comp. Code Data
    - Purchasing Data
  - Customer Attributes
    - General Data
    - Comp. Code Data
    - Sales Area Data
    - Tax Indicators
  - Contract Account Attributes
    - General Data
    - Partner-specific Data

- **Enterprise Asset Mgmt.**
  - Work Centers
  - Equipment Master
  - Functional Location
  - Identification
  - Industry Sectors
  - Object Links and Networks
  - Maintenance Plans
  - Maintenance Items
  - Measuring Points
  - Task Lists
  - Service Master
  - Asset Structures
    - Linear Asset Capabilities
    - Distribution Curve

- **Retail & Fashion Mgmt.***
  - Descriptions
  - Units of Measure
    - Tax
    - Bill of Material
  - Textile Components & Fiber Codes
  - Characteristics
    - Assignment & Variants
  - Distribution Cntrs.
  - Layout Module
  - Stores
  - Distribution Cntrs.
  - Listing
  - Point of Sales
  - Sales Org. Data
  - Assortment
  - Season Assignmt.
  - Additions
  - Article Hierarchy
  - Substitution
  - Additional Texts
  - Document Management System

* User interface integration between GL Account and Cost Element only supported in SAP MDG on SAP S/4HANA

* SAP MDG, enterprise asset mgmt extension by Utopia

** SAP MDG, retail & fashion mgmt. extension by Utopia
SAP Master Data Governance Application Foundation
Tailor and extend content and processes in central governance

Feature description
Extend data models, create your own custom objects or adjust processes and UX to tailor the central governance processes to your needs.

Business value
- Pre-configured data models, user interface configurations, workflows, and data distribution are adjustable
- You can extend the existing models with your own master data attributes, change the UI configuration to your users’ needs, and customize the workflow and distribution to define your specific governance processes
- Tools allow you to define new objects and related processes in order to govern your own master data domains
End-to-end integration in heterogeneous landscapes
SAP Master Data Governance

Business-led integration
SAP Master Data Governance provides interfaces based on a process choreography for easy end-to-end integration… …not just technical interfaces

Not only for SAP
SAP Master Data Governance provides open interfaces to integrate with every solution as needed

Out-of-the-box for SAP
In addition, for SAP to SAP integration, we provide out-of-the-box integration content

Some examples of SAP Master Data Governance integration scenarios:

Data Quality Solutions
Quality trend and KPI monitoring, error detection and then remediation via SAP MDG (e.g. integration to SAP Data Services and SAP Information Steward)

Customer Relationship Mgmt
Allow for de-central look-up and ad-hoc replication, or for de-central creation and subsequent global governance (e.g. user interface in de-central SAP ERP to search customers remotely in MDG hub)

Business Analytics
Provide trusted master data and key mapping between duplicates for better insight into transactional data or big data analytics (e.g. export of MDG key mapping to SAP Business Intelligence)

Product Lifecycle Mgmt
Integration of material master data mgmt into the broader engineering change process (e.g. UI and process integration to SAP PLM)

SAP S/4HANA
SAP S/4HANA and SAP MDG co-deployed, SAP S/4HANA as a target system for SAP MDG (e.g. provide MDG key mapping for Central Finance)

External Authorities or Knowledge Providers
Validate addresses versus external references, tax jurisdiction codes via Vertex, identify denied parties via business partner screening, etc. etc. (e.g. user interface integration to SAP Business Partner Screening)

Enterprise Resource Planning
Material master data validated and ready to be used in purchasing, production, storage, sales, transportation, accounting, etc. (e.g. re-use of SAP ERP validations in MDG)

Product Catalog and eCommerce
Synchronization of product master and enrichment towards product catalogue and ecommerce solutions, consolidation of hybris Omnichannel customer data (e.g. data flow integration to SAP Hybris PCM, customer consolidation via open web service)
Master data governance in hybrid landscapes
Synchronized master data across on-premise and on-demand solutions

All systems always in synch
- Master data creation can happen in on-demand systems, on-premise systems, or in SAP MDG on S/4HANA
- De-central creation triggers a process in SAP MDG on S/4HANA
- After approval, enriched high-quality master data is replicated to all relevant cloud and on-premise systems

Out-of-the-box, yet adaptable integration
- Can be implemented based on standard capabilities, synchronization e.g. using extendable SOA services
- Any system can be involved as source and/or target
- Pre-built integration for selected SAP systems

Move to the cloud at your own speed
- A master data hub (like MDG) that synchronizes master data across on-premise and on-demand solutions is a prerequisite for your system landscape simplification and your step-by-step move to the cloud

Real-life customer example: SAP MDG managing prospect and customer data between cloud and on premise systems
The role of SAP MDG in the context of SAP S/4HANA
MDG roadmap is fully aligned with SAP S/4HANA roadmap

SAP S/4HANA does not change the role of SAP Master Data Governance

- Distribute or consolidate master data across all systems in the landscape: SAP Business Suite systems, SAP S/4HANA systems, other SAP and non-SAP systems…

Integration with SAP S/4HANA is available today

- SAP S/4HANA can be a distribution target for SAP Master Data Governance
- Central Finance can leverage MDG’s centralized master data & key mapping for aligned postings
- SAP Master Data Governance can be co-deployed on SAP S/4HANA on premise
The meaning of SAP MDG in the context of SAP S/4HANA
Preparing for the move to SAP S/4HANA

SAP MDG helps getting and keeping master data clean

- SAP Master Data Governance helps ensuring data quality and readiness before an operative SAP S/4HANA implementation and reduces risks for deployment and operations.
- SAP Master Data Governance is a good way to establish strong governance processes that will help you maintain master data quality after SAP S/4HANA go live.
- SAP Master Data Governance is a good way to get experience with a controlled subset of SAP S/4HANA before a full blown implementation.

Usage scenario:

- Use MDG, Consolidation, for preparing a high-quality, de-duplicated master data repository in preparation phase for the SAP S/4HANA implementation.
- Switch to MDG, Central Governance, prior to, or in parallel to go-live with SAP S/4HANA to keep high-quality data clean in the long term.
MDG Supporting Central Finance (SAP S/4HANA Finance)
Data consistency in central finance scenarios

Business Value

- In an SAP Central Finance usage scenario, MDG-F can optionally serve as the central master data governance application to ensure high quality and consistency for financial master data.
- In addition, MDG consolidation can create the necessary key mappings for customer and supplier data by many-to-one matching, and keep them updated.

<table>
<thead>
<tr>
<th>Key Mapping Table</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Finance</td>
</tr>
<tr>
<td>Cost Center</td>
</tr>
<tr>
<td>Customer</td>
</tr>
</tbody>
</table>
MDG market adoption
Some sample customers…
Summary

SAP Master Data Governance: the efficient way towards consistent and high quality master data – the foundation of your Digital Business

SAP MDG is the one single application that provides out-of-the-box, domain-specific master data applications as well as a flexible framework for custom data models and processes. This allows to de-centrally manage and consolidate, or centrally manage and distribute all master data for your company’s complete system landscape.

The clean master data from SAP MDG enables you to accelerate your enterprise software journey, and to enable new digital business models. For example:

- SAP MDG supports your system landscape simplification and move to the cloud with synchronized master data across on-premise and on-demand applications
- Leverage SAP MDG’s harmonized master data and SAP’s platform capabilities to connect transactional and IoT or other big data, and derive real business value
- Mobilize your business with simplified master data access and efficient scenarios for request, approval, or to monitor KPIs and trends
- MDG helps preparing a SAP S/4HANA move: get experience with a controlled subset, ensure master data quality before the implementation and maintain quality after go live