Master Data Management: The Solution to Your Master Data Problem

Laurus Technologies

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Introduction: The Stakes

You have a big problem.

Data runs a business. It's the most important thing you have as a business leader. But when it comes to the powerful data at the heart of your organization, many businesses are at serious risk, working with inaccurate and unmatchable reports, testing the limits of compliance, and causing confusion, anxiety and outright fear. Sound familiar?

Data must be managed. But with the increasing number of systems created to do just that, a whole new set of problems and conflicts have emerged.

Master data and its management are critical to an organization's survival. In the following report, we examine the ideas and essential issues surrounding master data, problems with the copious management systems available today, and the evolution of solutions to Laurus Technologies' unique managed service. Master data is a big concern, affecting your work everyday. But proper, proven, master data management can empower you and your business.

Master Data Explained

Master data is a loaded term for businesses. We know it as the root of our greatest successes, but also our most disastrous problems. But what do we really mean when we refer to master data? When it comes to exact definitions, confusion often reigns for business leaders.

Analysts at the Business Intelligence Network define master data as the following:

"Master data sets are synchronized copies of core business entities used in traditional or analytical applications across the organization, and subjected to enterprise governance policies, along with their associated metadata, attributes, definitions, roles, connections and taxonomies. This covers all the traditional master data sets: customers, products, employees, vendors, parts, policies and activities. It also extends the realm of possibility to incorporate data sets that might not fit the standard mold."

Dissecting this definition, we can see several key aspects critical to our understanding, and our business solutions. First, data sets considered "master data" are core business entities, transactional and analytical information related to customers, products, employees and more. Second, the data is used in multiple places across the organization, resulting in copies. Pushing this definition further, we can understand master data as complex, constantly changing, and highly valuable to the organization.

All of this means problems with master data are problems for the entire business organization. How? Employees routinely access this data in their day-to-day work, in multiple applications. More often than not, employees touching the data mean some sort of manipulation and change. Frustrated business leaders know well what happens next. Employees can easily start storing master data in various

locations, such as spreadsheets and application private stores. The possibility of inconsistency spreads across copies and contexts. And the problems add up exponentially.

Since master data is constantly changing, used across multiple applications and by numerous users, errors can easily occur that spread throughout the business. As a result, master data increasingly needs some sort of management system to prevent these inconsistencies and empower business owners. The field of master data management has emerged in recent years as a response to this growing need.

Master Data Management (MDM) refers to technology, tools and processes used to create and maintain accurate, consistent lists of master data. Sounds simple enough, but just as confusion often occurs when it comes to defining master data, understanding the ideas behind MDM can also be problematic. Here, some key, and often misunderstood, aspects of MDM:

- MDM goes beyond technology and the IT department. MDM incorporates technology, but also relies heavily on processes. Effectively managing master data is an issue critical to the entire business, so the route often requires changes to business process.

- MDM is not a finite solution. Investing in creating clean, consistent master data is only the first step. The ideal solution to master data issues is ongoing, including flexible tools and processes to maintain accurate, reliable master data as the business evolves.

- MDM is entirely different from a data warehouse. Master data is constantly needed by and referred to by various applications on a real-time basis to fulfill operations, as well as for deeper analysis.

- MDM is not a single application or piece of software. Rather, it is a foundation platform providing reference data for business applications and business processes to become more effective.
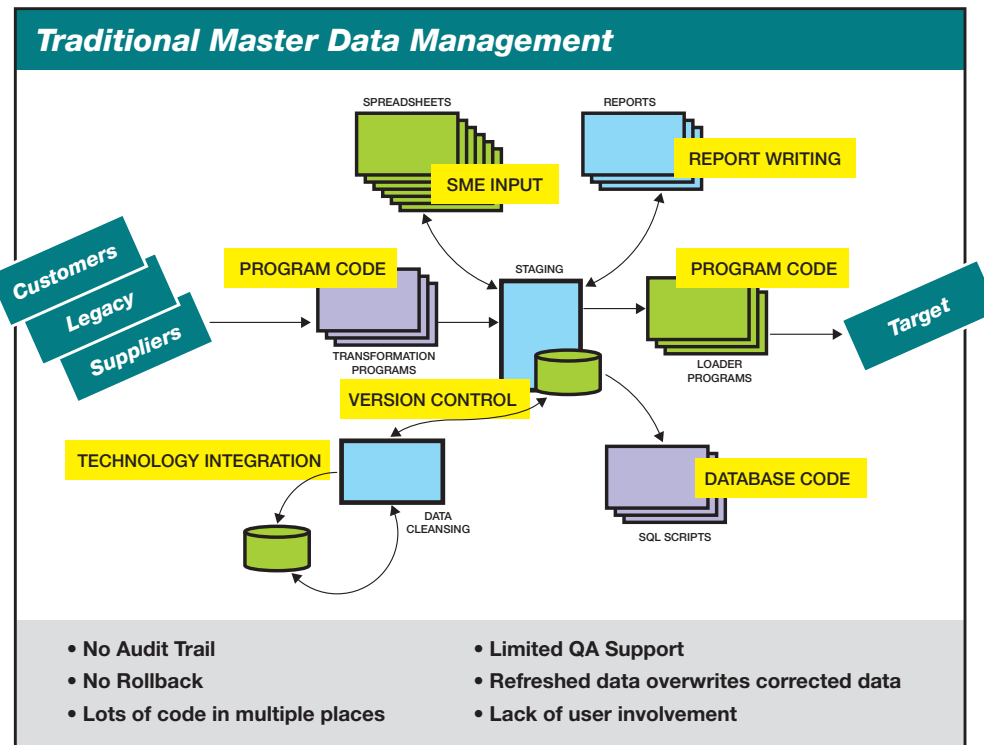
The Evolution of MDM

The ultimate challenge for businesses in managing master data is accuracy. This data is the most critical element of the organization, and instrumental to success. For companies to effectively own and leverage the data, it must do what it's supposed to, it must be clean and inconsistency-free, and it must match up. With this business challenge in mind, master data management emerged, led by enterprise resource planning (ERP) initiatives and industry pioneers.

But from the very beginning critical issues emerged. Traditional MDM systems are deeply flawed in key ways, necessitating a new way of doing things. That's where Laurus comes in, providing solutions to the central problems of MDM.

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Traditional Master Data Management

- No Audit Trail
- No Rollback
- Lots of code in multiple places
- Limited QA Support
- Refreshed data overwrites corrected data
- Lack of user involvement

Problem #1: "My reports are out of sync."

Systems to manage master data can work correctly and effectively, but when organizations try to implement business maneuvers, reports, queries and analyses don't match up. Why? Master data can be wrong from the start, riddled with errors at the very source. But MDM systems will still work as they are supposed to.

Companies need to clean up their master data before effective business reporting is possible, and traditional MDM processes may overlook this step. If master data is not correct at the core, for whatever reason, the errors will follow downstream into reporting, analysis, and the central company operations. A better method is needed.

True management brings data to the point where it is cleansed, not repeated or duplicated, and representing precisely what it should be. Laurus' comprehensive methodology, described in detail in later sections, does just that.

Problem #2: "We're growing, but our MDM system isn't."

Many MDM systems will rely on programmers capable of specialist software, and involve a massive amount of code production. Labor costs are excessive, as are the risks of missing audit trails and minimal support. Production downtime is high, and project timetables are long. But the main problem is a rigid system.

While MDM is a long and complex process that should be flexible, traditional means guarantee companies will be stuck when they want to expand or change in the future. For the business owner, then, enlisting a traditional MDM solution will often mean spending a lot of money without getting the desired, necessary results.

For scalable solutions, Laurus offers a system free of hardware and software purchases and programming investments. Fees are fixed and include all efforts. No installation is required, resulting in quick execution and little production downtime. Taken together, the solution is flexible to grow with your needs and extremely cost efficient, reducing data migration costs by 60 percent.

Problem #3: "Is our data really ours?"

A final limitation of traditional MDM processes is the reliance on programmer control. Without a methodology that ensures correct master data from the beginning, and thorough maintenance procedures, good data can easily get deleted in cases of confusion. When a system excludes the business decision-makers from the process, the risk for such errors grows exponentially. In a traditional MDM system, the company does not own the data from origin to destination, as they should.

With Laurus solutions, MDM is transplanted from IT control back to the business, where it belongs. The Laurus MDX dashboard allows business leaders to exert control over their database, eliminating duplicate information and improper data deletions. This methodology also empowers business leaders to make decisions with master data that promote business growth and success.

Master data management has evolved with solutions from Laurus, correcting the flaws of traditional system and offering business leaders vast potential for their organizations. To summarize, Laurus MDM provides:

- Thorough and advanced methodology, meaning accurate master data at the source and throughout the company's applications.
- Flexibility, allowing companies to expand and evolve over time.
- Low cost and minimal downtime.
- Control in the hands of the business, meaning reduced errors and empowered decisions makers.
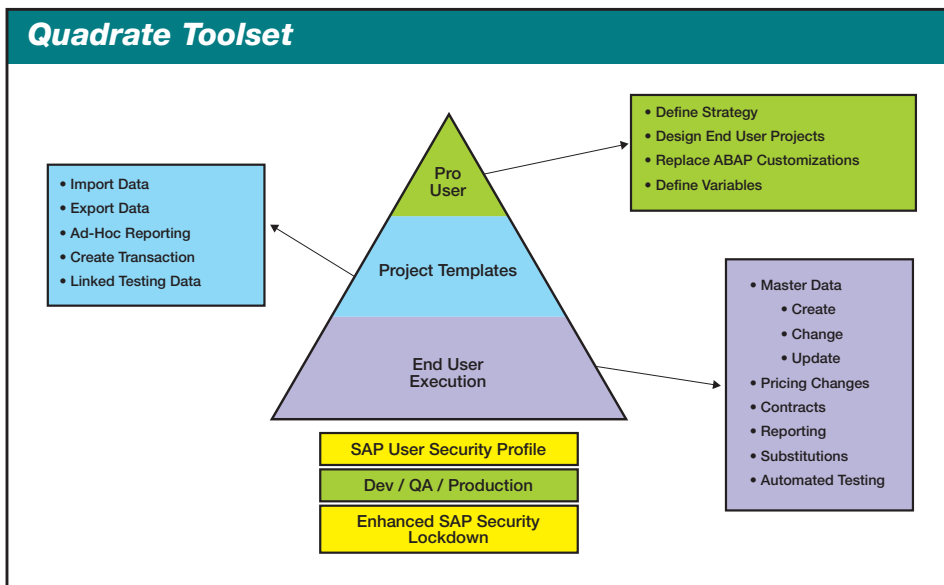
The unique managed service provided by Laurus tackles traditional MDM problem areas and provides the outsourced, expert master data management businesses need.

Data Migration Managed Services Value Proposition

	Time	Cost	Risk	Quality
Provides Cleansing, Matching and Merging services without the need to purchase any new hardware or software	↓	↓		↑
Proven methodology and supporting assets to manage data migration from planning to testing	↓		↓	↑
Rules engine reduces the need for specialist skills to build program code	↓	↓	↓	↑
Extensive audit and rollback capabilities minimize errors and maximize business visibility into the data		↓	↓	↑
Online (web-based) or offline (Excel-based) tools for data validation and business input		↓		↑

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Quadrate Toolset

Integrating Laurus Solutions and SAP Systems

Companies that are committed to SAP systems for master data management face all the problems of traditional MDM systems. Business intelligence reports aren't matching up. Customer, material and vendor data is different for everyone that looks at it. Control is lost. Costs are high.

Laurus enables business leaders concerned about their SAP systems and the accuracy of master data a means of validating data while still maintaining their commitment to their ERP programs. As the U.S. distributor of Quadrate software products, organizations can gain flexibility in a cost-efficient, easy to use and simple way.

The Quadrate Data Workbench ERP2, for example, uploads both professional and end-user data from a spreadsheet or database into SAP. Automated testing scripts link SAP transactions. Qubed is a system that extracts data from SAP to a spreadsheet or database, and offers custom, ad hoc reporting on SAP data. The Data Integration Suite combines the power of ERP2 and Qubed in a server model, allowing the complete meshing of SAP and Non-SAP systems.

Utilizing Laurus to sync up SAP means a powerful migration to a corporate platform, integrating ERP into the business process. Master Data Validation Services provide cleansing, matching and merging services, a proven methodology, continuous support, online or offline tools, and extensive audit and rollback capabilities. Laurus gives you:

- Low cost, with a fixed fee based on the number of records, no software to purchase, and overall reduced spending on implementation and consulting.

- Quick ROI, with installation in less then 15 minutes, immediate use, and results in less than 30 days.

- Flexibility, with no ABAP coding and an easy-to-use platform.

- Responsibility and power, with business control over data.

- More quality in data management, while reducing conversion and migration costs by 60 percent.

MDM Methodology by Laurus

The master data integration process developed and utilized by Laurus ensures accuracy, minimal disruption, and continuity. This proven methodology gives business leaders the solution to their master data problems, and enables the integration and improvement of existing systems. It involves nine steps or phases:

Step 1: Define Source and Target.

Laurus develops a target model based on the client's functional requirements and initial data migration needs. Source data required to populate the target model is identified bases on interviews, system observations and technical specifications.
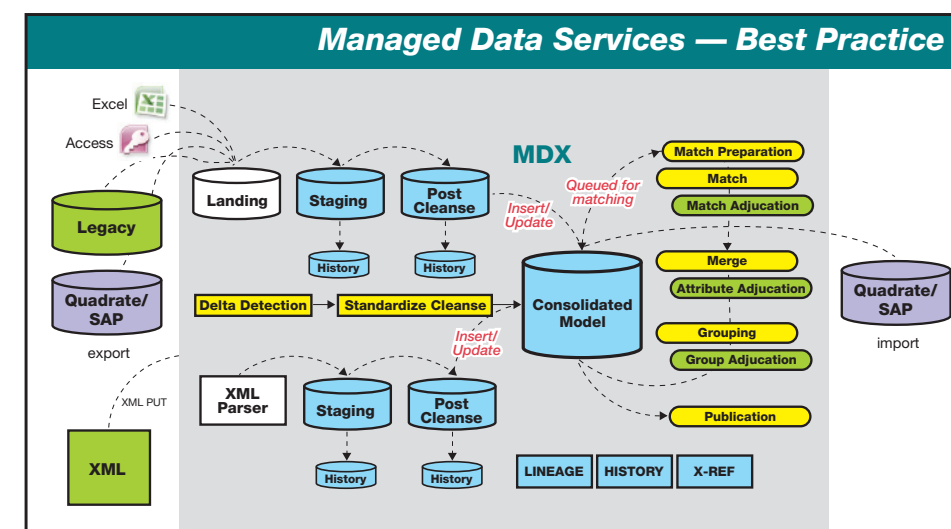
Step 2: Profile and Map Source Data.

The initial source to target map is based on business rules, systems observations and technical specifications, and validated using MDX data profiling tools. Laurus produces validation reports that compare source data extracts to the target model, and generates an "Items for Attention" (IFA) log. Validations include:

- Primary key integrity
- Data granularity
- Domain and range of each column
- Application managed (data) integrity
- Availability of data
- Length and type of data fields
- Gaps between source and target
- Gaps between data and business rules

Step 3: Cleanse and Standardize.

To transform source data to fit the requirements of the target model, cleansing and standardization commence. Cleansing may also be applied to enhance matching results between source and target. Pre-cleanse and post-cleanse data is stored in the MDX database for lineage and audit reporting.

Managed Data Services — Best Practice

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Specifically, during this phase Laurus:

- Generates cleanse reports for validation, marks incorrect results and updates data as required.
- Tracks manual changes and can preserve these changes during reload/refresh of source data if necessary.
- Stores the rule (or userid) responsible for every data update so that bad rules or incorrect user actions may be isolated and data may be reverted if necessary.
- Allocates cleanse validation reports to SMEs based on business rules.
- Tracks validation reports by user, due date and data content.
- Imports validation sheets and maintains audit trail of changes.
- Rejects validation sheets that are outdated due to model changes or data reloads.

Step 4: Match and Merge.

The Laurus MDX platform provides a very fine degree of matching control, able to evaluate a wide range of conditions to confirm or reject a match. The MDX database stores match history for lineage and audit reporting. Activities in the match and merge phase include:

- Generating match and merge reports for SME validation. The SME is able to mark incorrect results and update data as required.
- Tracking manual decisions and preserving these changes during reload/refresh of source data if required.

- Re-processing data when matching identifiers have changed.
- Allocating match validation reports to SMEs based on business rules.
- Tracking validation reports by user, due date and data content.
- Importing validation sheets and maintain audit trail of decisions.
- Rejecting validation sheets that are outdated due to model changes or data reloads.

Step 5: Augment

Building a master data file often requires that additional attributes are entered or derived from non-traditional sources, including the web, PDF data sheets, reference databases & even SME interviews. The MDX dashboard provides data entry sheets in a familiar Excel format to optimize and control the data entry process. In addition, MDX provides an offshore data stewarding service to gather, enter and validate additional attributes.

Step 6: Extract and Load

MDX produces extracts of master data files based on business logic required by the target application. We apply referential integrity rules defined during the creation and validation of the target data model. Within the MDX database we track the extract logic and the keys in each extract to facilitate reloads of the equivalent data during testing.

Step 7: Testing Support

Not all master data issues can be realistically finalized the data is first used in

the target application. There may be several phases driven by testing strategy and business process requirements. Changes arising from these tests may occur at any stage of the master data preparation cycle. The customer should expect to reprocess the data multiple times throughout testing. MDX provides audit reports for any data element to show how it was created:

- Rules executed
- Users that validated the data
- Manual changes to the data
- Date and time of all changes
- We also provide reports that track validation counts throughout the process.

Step 8: Production Cut-Over

MDX supports a wide variety of cut-over strategies including a phased approach, parallel execution and big bang. The MDX database allows the source data to be refreshed with minimum downtime by only processing source system data changes. MDX can output files in any format, and provides a facility to manage synchronization of data in the new application with residual data in the source systems.

Step 9: General Housekeeping

Master data management is an ongoing process, and the Laurus methodology accounts for this. Continual housekeeping steps include:

Audit. Every change to the business data, whether by source system, rules or manual

input, is stored within the MDX database for audit purposes.

Version Control. The MDX database tracks al changes to business rules, target model and source mapping to provide impact analysis reports and to manage the integrity of the business data between reloads/refresh cycles.

Allocations. Data validations are allocated to SMEs based on business rules. The MDX database stores a matrix of data and SMEs to manage this process.

Process Reporting. The MDX database provides a reporting facility to allow any desktop reporting tool access to key process control data. MDX also provides a set of Excel reports that track the most common process management metrics.

Conclusion

Everyday, someone in your business is creating master data. It's evolving and changing, and absolutely critical to your organizational health and wealth. The trick for business leaders is to effectively manage master data, preventing error and loss, and protecting it from the ravages of time and users.

Laurus solutions translate this big issue to your language and your systems. We've learned from the limitations of traditional master data management, creating a unique managed service that gives you control and clarity.

You have a problem. But Laurus Technologies can help you solve it. Take some time today to contact Laurus.

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Sources

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About Laurus Technologies

Laurus Technologies (www.laurustech.com) is a business consulting and IT solutions firm that helps customers solve their most pressing business challenges. What sets Laurus apart from the competition our combination of business knowledge, technical talent and strong focus on customer business objectives. From needs assessment through implementation, Laurus listens to client needs and partners to develop technology strategies that align with their business objectives. Laurus people are experts in managing today's increasingly complex IT infrastructure.

Based in suburban Chicago, Laurus serves customers in the Midwest and beyond. Laurus employs nearly 100 people in its offices in Itasca, Chicago, Minneapolis, Milwaukee and Denver.

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Inc. 5000: Fastest Growing Private Companies

CRN Magazine Fast Growth 100: Fastest Growing IT solution providers – 2008

Crain's Chicago Business Fast 50: Chicago's Fastest Growing Companies – 2008

VAR Business 500: North America's Largest IT services firms – 2008

Ernst & Young: Entrepreneur of the Year Finalist Company – 2008

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