



DataFlux® qMDM

Create a consistent, accurate and unified view of corporate data

What does DataFlux® qMDM do?

DataFlux qMDM is a multiple-domain master data management solution that includes the processes and technology needed to provide a trusted view of critical data assets. It leverages an embedded data quality engine to analyze existing data sources, build a unified view and manage that data throughout all stages of its life cycle.

Why is DataFlux® qMDM important?

It is critical for businesses to understand who their customers are, what they purchased and how to sell more to them. Businesses also need to know what is being spent on materials, gain an accurate view of suppliers and view inventory information to manage and control costs. Master data management is the creation of an accurate and unified view of different types of corporate data. SAS and DataFlux enable the streamlining and standardization of data to form a master data hub that provides consistent and uniform control of data across the enterprise. This delivers rapid results and supports increasingly important data governance initiatives.

For whom is DataFlux® qMDM designed?

It is designed for data stewards and members of an organization's data integration and quality teams. The simplified and consistent interface also makes it easy for business analysts to use.

What is a business without its customers, products and employees? Master data (i.e., information about customers, products, employees or other critical business elements) is arguably the most important data that an organization holds. For businesses to grow, it is critical for them to understand and get the most value from all of their data, wherever it originates and is stored.

Data silos, so prevalent throughout most organizations, can be a huge barrier to producing accurate information. They result in duplicate, overlapping and conflicting data that magnifies data management problems and impedes operational and analytical efforts. The problems are numerous: reduced revenue as a result of decisions made using bad data and lost productivity as teams try to validate data. Inaccurate data also can lead to customer dissatisfaction, lower retention rates, poor product offerings and untapped opportunities.

For many organizations, obtaining a single, consistent view of an entity from data stored in so many different applications and formats seems unattainable. Such initiatives are often stalled because companies are not even sure where to begin. A phased approach is one way to alleviate the concern and provide direction for moving forward.

SAS and DataFlux provide a quality-based master data management solution, DataFlux qMDM, that helps organizations ensure they are not using multiple (potentially inconsistent) versions of data in different parts of their operations or analytic applications.

Key Benefits

- Improve revenue generation.** Linking operational systems provides consolidated customer profile and activity information that enables businesses to identify additional cross-sell, up-sell and product bundling opportunities.
- Enhance customer relationships.** A unified view of customers and other data entities enables businesses to optimize all customer interactions, including sales opportunities, customer support, billing and more.
- Make informed, fact-based decisions.** Creating a unified view of customers, suppliers, products and other entities allows reliable linking to core operational systems and provides a consolidated view of each entity. This results in more accurate and complete data for use in predictive analytics, which leads to improved, fact-based decision making.
- Reduce risk by providing governance capabilities needed for compliance.** Unified and consistent reference data is needed to meet risk objectives. DataFlux qMDM provides governance capabilities necessary for compliance, including validation and integrity controls as well as audit trails and lineage information.
- Provide unified, trusted data for use in SAS solutions.** DataFlux qMDM augments SAS® software by ensuring high-quality reference data that serves as the foundation for business analytics solutions such as SAS Customer Intelligence, SAS Fraud Management, SAS Risk Management and others.



Product Overview

The purpose of master data management (MDM) is to identify, link and reconcile data from various sources to create a unified and trusted view of core data assets, and to provide the integration processes needed to make that data consumable by other enterprise applications. It also enables you to manage and evolve that information over time.

Whether you need a unified view of customers to support sales and marketing efforts or a single view of materials to streamline procurement efforts, MDM can turn messy data into consistent information by creating and managing an enterprise “best record” approach.

SAS and DataFlux provide the tools and technologies for defining the processes and standardizing data within a central data repository that enables uniform control of data across the enterprise. The DataFlux qMDM solution provides the foundation for either a staged MDM implementation or a comprehensive initial deployment, allowing your own

business needs to drive MDM deployment options.

Best-in-class data quality technology

The DataFlux qMDM solution is built upon best-in-class data quality and data profiling technologies. This innovative approach ensures that data is explored, profiled, understood, cleansed, properly linked and enhanced before it is integrated into the master data repository. DataFlux is an industry leader in address verification, data standardization, parsing and other data quality functionality. In addition, a fully extensible knowledge base can be customized with a GUI to ensure data cleansing rules are implemented to your specifications.

Multiple domain data model

DataFlux qMDM provides a flexible, entity-based data model that can be used to create master data domains for individuals (citizens, customers, students, patients, etc.), organizations (suppliers, vendors, hospitals, facilities, etc.), site, product, asset or other data entities. Householding, peer relationships, clustering and entity hierarchies

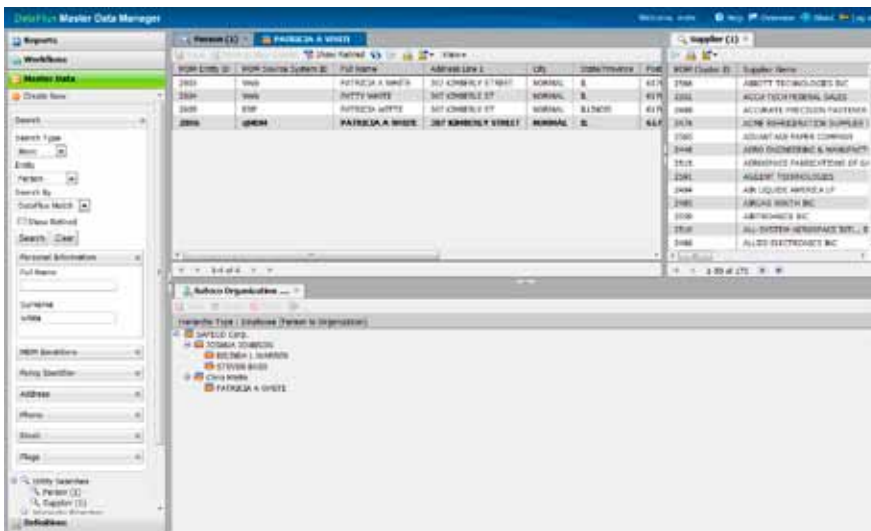
are all supported in the data model. Multiple domains provide flexibility so you are not limited to just a single domain (for example, customers) for information. This delivers a more accurate and complete picture of each entity.

Master data repository

The master data repository is a configurable database that stores your master data. It enables you to create a master view of customers, products, inventory, materials, assets and virtually any other type of data. Matching and identification processes take place within this hub. The system analyzes individual records and links them based on a set of identified rules. In addition, the hub design makes it possible to historically rebuild data views. All changes are captured and preserved along with other information such as who made modifications and when. This auditable, historical view of master records means that the relevant data history required for data governance is maintained in the solution infrastructure. Equally important to efficiently loading data into the MDM repository is the ability to update the repository as source systems change and feed cleansed information back to operational systems. DataFlux qMDM provides the ability to create and manage data inside the master repository.

Intuitive interface and browser-based stewardships console

An intuitive, browser-based GUI called the Master Data Manager makes it easy to control the master data hub, as well as the processes and job workflows that govern the creation of your master data. The interface lets you easily manipulate and visualize master data records, and can be used to search the master data hub to see what data has been merged by whom and when the merge took place. It enables you to manage interrelated data elements



A role-based, metadata-driven user interface enables data stewards and business analysts to easily manage multiple data domains, view the contributing records used to create the “best record” of an entity and develop multiple-entity hierarchies using streamlined drag-and-drop capabilities.

such as tiered and networked hierarchical structures. The Web-based console allows data stewards and business analysts to analyze existing data resources and design data governance workflows and business rules. Because it is easy to use, business users and IT staff members can collaborate more effectively, minimizing the time and complexity of the MDM deployment.

Role-based access

Role-based access, also known as data masking, is provided so data stewards can control what information users are able to access. This protects sensitive and confidential information such as Social Security numbers and other personally identifiable information.

Entity resolution and matching

Entity resolution solves the problems that arise when an organization has two or more sources of information containing records on the same set of real-world entities. If the source systems have evolved independently, it is unlikely that unique identifiers exist to link the data that is in different systems. DataFlux qMDM provides a patented data-matching engine to match and merge records from multiple systems. Optimally, fields from the different systems can be combined to create a “best record” of each entity.

Survivorship

Determining “best” values is also called survivorship. When there are different data values, decisions must be correlated to create a “best record.” DataFlux qMDM uses a core matching process that combines both parsing and standardization. Using industry-leading data matching and survivorship capabilities, DataFlux qMDM can be configured to use virtually any kind of match rule or best-record creation rule for the process of identify resolution and management.

Key Features

Best-in-class data quality and data management capabilities

- Standardize and rationalize data during the MDM data life cycle with capabilities that include:
 - Data access to more than 20 relational data sources, file-based sources, XML files and unstructured content.
 - Data profiling, exploration and entity resolution.
 - Data quality features for address verification, standardization, parsing, etc.
 - Data matching, linking and householding.
 - Data-rule monitoring.

Multiple-domain data models

- Create master data domains for party (citizen, customer, student, patient, etc.), organization, site, supplier, product, asset or other data elements:
 - Identify and centralize key core reference data.
 - Grow from batch-oriented maintenance to real-time application integration through SOA.

Master data repository: hub loading and maintenance

- Customize data models and transformation/hub-loading processes for common entities (person, organization, location, etc.).
- Support for hub loading and maintenance processes with:
 - Out-of-the-box models that are extensible and user-created models that can be easily and seamlessly integrated with other models.
 - Built-in data quality functionality such as address verification, standardization, parsing, etc.
 - Entity matching, source system record linking, cross-referencing and best-record creation.
 - Data-rule monitoring.
 - Historical tracking with changes saved for contributing records and best records.
 - Initial load and incremental transformation/load capabilities.

Browser-based data governance and data stewardship console

- Control the master data hub, as well as the processes and workflows that govern the creation of master data, through an intuitive, business-focused interface that lets you:
 - Search and display entities.
 - Add, modify and retire entities and hierarchies.
 - Create new hierarchies and modify them.
 - Perform entity resolution and survivorship tasks with clusters of entities.
 - Manage access to attribute content by role, allowing only authorized individuals to view sensitive attribute content.
 - Manage metadata for entities, attributes and transformations.
 - View dynamic and batch reports.

Entity resolution and matching

- Create and maintain the master record using a patented data-matching engine.

Survivorship

- Validate master data representation through entity resolution, best-record selection and editing, and the creation of a universal identifier.

Batch and real-time deployment

- Import data, service inquiries and searches into the hub through batch or real-time (service-oriented architecture) interfaces.

Enterprisewide data governance

- Support the consistent maintenance and use of master data attributes through a common data model and centralized data maintenance and access processes.
- Ensure ongoing conformance with rules and quality using data profiling and business-rule monitoring.

Batch and real-time deployment

With DataFlux qMDM, data can be loaded into the hub and searched using batch processes or real-time service-oriented architecture (SOA) interfaces. Batch jobs derived from DataFlux qMDM can be repurposed as business services that accept data on a record-by-record basis. This enables enforcement of business logic, exception handling, identity management and data quality across enterprise applications.

A standards-based, platform-independent approach

Because DataFlux qMDM can work within virtually any IT environment, your organization can implement an MDM initiative with minimal system disruption.

Enterprisewide data governance

With role-based access, auditable and historical views of master records, and a stewardship console that enables workflow modeling, DataFlux qMDM offers complete support for enterprisewide data governance projects. Combining the processes and strengths of master data management with powerful and proven business analytics from SAS, organizations can transform their disparate data into a strategic asset that empowers better decision making.

NEW_ENTITY_ID	NEW_ENTITY_ID	FULL_NAME	ADDRESS	ADDRESS2	CITY	STATE	PROVINCE	POSTAL_CODE
196	1965	TROIC RIBE	3		CONROCKWAY	MA		0153
196	1965	JANE COOK	4 0112 ST		ANDOVER	MA		01810
1965	1965	MICHAEL H MARTIN	85 W 25TH ST APT		INDIAN	VT		05454-1941
1965	1965	MARCEA MENDEL	8 JONES BLVD ROAD		BRIMINGTON	AL		36103
1965	1965	ORIANA L GILCHRIST	5 HARRIS AVE		CLIFTON	CT		06111
1965	1965	EMILY SANDRUM	90 BOX RD		SOCKETS	VT		05444
1969	1973	ELSA OLSON	114 MONTWOOD ROAD		SAFETY	SD		57049
1964	1978	EMILY D RICHMOND	25 DANFORD DR		SAVOY	MA		01829
1964	1946	ERIKARD GONZALEZ	PO BOX 344		SAVANNAH	CT		0341
1976	1946	SCOTT WILSON	13 KITTENDALE ST		WELTON	VT		05689
1981	1975	TROIC RIBLET	408 WIG LANE		BARFORD	MA		01822
1986	1986	ISA WELLS	208 WINDSOR PLACE		BARTON	MA		01711
1989	1989	MICHAEL J BRACKETT	200 BRIMLEY PLACE		BARTON	MA		01711
1989	1989	JENNIFER L COOK	204 WEN ST		NORTH BEREN	MA		01867
1110	1939	BARRON P DONALD	103 BROADWAY FID		JACKSON MARSH	AL		3714
1130	1979	CHRISTOPHER C GONNARD	225 YON GROW DR		WICKSTON	MA		02615
1130	1980	CAROLYN F FORD	123 GARDEN ST		HALL KENN	MA		01703
1144	1989	BRITANNIA ALBERT	89 BRIDGE ST		SOUTH BEREN	MA		01867
1173	1975	SACHIN P BELSAR	276 MAIN STREET	APT 402	NAATKON	VT		05100
1174	1984	ANDREW GOSWAMI	24 DANFORD STREET		TARRANT	MA		01860
1181	1989	JANE WARD	906 WOODSIDE AVE		SOUTH PLAINFIELD	MA		01860
1361	1978	CAROL ZASTRELL	100 SOUTH ST 604		WINDHAM	VT		05690
1369	1929	FRANCOIS COMBES	44 HALL ST 2		WINDSOR	VT		05691
1371	1949	ANDREW P SANDRUM	90 BRIDGE ST		WINDSOR	MA		01867
1229	1923	DAVIDE CHILDEN	100 CEDARWOOD VILLAGE		ROCHESTER	MA		01867
1234	1923	TANAKA L YANAGI	129 E ROUTE 12		PRESTON	VT		05699
1267	1947	THOMAS DUNCAN	8 GARD ST		ROCHESTER	MA		01862
1271	1925	BARBARA ROMAN	122 SHIRE CHURCH		PUTNAM	VT		05699
1279	1960	CAROLYN GOSWAMI	103 W AUGUSTA		SPRING	MA		01860-4004
1365	1969	JOHN SE SANDRUM	245 WINDHAM ST		WINDSOR	MA		01867
1365	1969	KRISTIN DEWITT	100 CREEK RD		WINDHAM	MA		01867
1362	1967	JENNIFER MENDEL	PO BOX 2481		WEST SPARTANBURG	MA		01515-1940

Integrated batch and dynamic reporting enables data stewards, business analysts and other users to drill into master data and identify, diagnose and resolve data quality issues.

NAME	GROUP	LOCAL	LOWER ADDRESS	UPPER ADDRESS	LENGTH	RESPONSE
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Data administrators can create new entities and modify existing entities with the same simplified and consistent interface. They can also generate and publish associated SOA-enabled jobs for creating, editing and managing the master data over its entire life cycle.

DataFlux® qMDM System Requirements

To learn more about DataFlux qMDM system requirements, view screenshots and see other related material, please visit www.sas.com/qmdm.



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