ORACLE®
E-BUSINESS SUITE

ORACLE CUSTOMER DATA HUB

CENTRALIZE & BUILD
MASTER CUSTOMER
IDENTITY

- Flexible, Extensible World-Class Customer Data Model
- High Volume Import Tools With Integrated Data Quality Options
- Survivorship Rules for Conflict Resolution
- Configurable Data Sharing and Security-based Privileged Access

IMPROVE DATA QUALITY

- Embedded Data Quality Management (DQM) Engine
- Duplicate Prevention, Identification and Resolution
- Address Validation Services (Adaptors Available from Trillium and Firstlogic)
- Out-of-the-box Integration with D&B (Batch and Real-time)
- Data Quality Trend Reports
- Integrated Application for Data Quality Professionals

DATA IMPORT WORKBENCH

- Manage Customer Data Imports Through Import Console
- Maintain Data Quality using De-Duplication Options During Data Import
- Perform Address Validation During Import
- Analyze Comprehensive Post-import Statistics

DUPLICATE IDENTIFICATION
AND RESOLUTION

- Identify Duplicates Manually and Through Batches
- Configure Survivorship Rules for Blending Profile Attributes
- Auto-merge Confident Matches

Oracle® Customer Data Hub provides a comprehensive set of services, utilities and applications to create and maintain a trusted master customer identity across the enterprise. Instead of requiring one to "rip and replace" legacy investments, Oracle Customer Data Hub allows companies to maximize their return on investment in legacy systems by consolidating customer data from heterogeneous systems into a central location and establishing enterprise-wide data quality and integrity at the lowest possible cost. Utilizing comprehensive integration services, the master customer identity created and maintained within the Hub is shared in real-time with operational and analytical systems so that all channels and lines of business operate in a consistent, well-informed manner, thereby improving customer satisfaction and loyalty. The Oracle Customer Data Hub is application and middleware agnostic, meaning that it can be deployed in any IT landscape without disrupting existing systems.

Centralize Customer Data Without Disrupting Existing Systems

Fragmentation of customer data across disparate systems prohibits companies from achieving a complete and accurate view of their customers. Oracle Customer Data Hub (CDH) centralizes customer data from disparate systems across your enterprise into a master repository. Existing systems are integrated in real-time with the Hub, allowing you to leverage legacy platform investments while capitalizing on the benefits of a single customer identity.

Establish a Master Customer Identity

At the heart of the Customer Data Hub is Oracle's acclaimed Trading Community Architecture (TCA), a proven, flexible and extensible data model widely recognized by industry analysts as the best-in-class customer model. The TCA model crosses industries, geographies, and business models, enabling companies to define a master customer representation that supports the superset of customer information collected across their enterprise.

Import Data into the Hub

To bring large volumes of data into the Hub, Oracle provides a bulk import facility that leverages integrated data quality tools to ensure that duplicates are identified, addresses are cleansed, and source system cross-references are maintained as data enters the Hub.

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CUSTOMER DATA
MANAGEMENT
- Analyze Data Completion and Duplication Reports
- Protect Party Modeling During Merge
- Certify Customer Records
- Manage Lifecycle of Customer Data

DATA QUALITY INTEGRATION
SERVICES
- Submit Merge Requests Via Services
- Raise Merge Business Events
- Retrieve Merge Request Details Through Services

SYNCHRONIZE DATA
ACROSS ENTERPRISE
- Cross Reference Mapping Between the Hub and Source Systems
- Creation and Maintenance of a "Universal ID"
- Industry standard Web Services, Coarse-grain Business Object APIs , Fine-grain TCA APIs, and Business Event System (BES) Callouts

GAIN ACCURATE INSIGHT
- Customer Data Hub Viewer/Editor (Oracle Customers Online)
- Configurable, Cross-System Transactions Viewer
- Comprehensive Relationship and Hierarchy Management
- Relationship and Hierarchy Visualization Tools

Create a Single Enterprise Version of Customer Data

By combining data from numerous systems and content providers, the enterprise consolidates customer data within the Hub. However, the data must be rationalized and conflicts must be resolved to make the information actionable. CDH's "Single Source of Truth" functionality uses a configurable set of survivorship rules for conflict resolution to take the different versions of a particular customer record and blend them into a single enterprise-wide, master record.

Improve Data Quality At A Lower Cost

While most companies understand the importance of maintaining high quality data across the enterprise, many find this goal elusive. Some companies choose to ignore their data quality problems while others attack these issues with an uncoordinated (and therefore ineffective) assault on some but not all systems. In both the cases, operational costs rise and revenue opportunities decrease.

Oracle Customer Data Hub provides a unique opportunity for companies to implement an effective data quality plan at a lower cost by managing data quality centrally, and then sharing that data across their enterprise.

Prevent, Identify and Resolve Duplicates

Embedded within Oracle Customer Data Hub is a highly configurable matching engine called DQM (Data Quality Management). DQM uses match rules, attributes and data transformations to find "similar" or "duplicate" records. As such, it can be used for searching as well as duplicate prevention. In addition to proactively preventing duplicates from entering the Hub, DQM can also be used in conjunction with Oracle Customer Data Librarian (a fully integrated application, designed for information quality professionals) to scour data already in the Hub and identify possible duplicates. Once duplicates are identified, they are resolved by either merging them automatically or via a manual review process within the Customer Data Librarian application.

Enrich with Valuable Content

Data from third-party content providers can be extremely helpful in correcting inaccuracies and augmenting customer information. As such, customer data within the Hub can be enriched with third-party content including company profiles, credit scores, corporate hierarchies, or validated address information, which can then be shared across the enterprise. Companies can leverage the Hub's out-of-the-box integration with providers such as D&B, Trillium, and Firstlogic or easily integrate with content providers of their choice.

Synchronize Consistent Customer Data And Processes

Cleansed, centralized data becomes even more valuable when it's sent back to source systems and used by employees to optimize the customer experience and improve real-time decisions. Oracle Customer Data Hub allows businesses to synchronize heterogeneous systems with the Hub so every customer touch point shows current, consistent data, ensuring that business interactions and decisions are based on the highest information quality.

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Synchronize Customer Data

Oracle Customer Data Hub provides standards based Web Services, out of the box, to make synchronization to any system easy.

Oracle Customer Data Hub offers a set of services to facilitate source system integration. Oracle's Business Event System (BES) is used to announce activity within the Hub so that it can be communicated to the relevant source systems via any enterprise service bus such as Oracle's ESB. Source systems can inform the Hub of activity within their systems by taking advantage of the full set of public APIs as well as standards based Web Services for creating, updating, and retrieving customer information from any platform. It also offers Data Quality Web Services to search for parties based on the Oracle DQM (Data Quality Management) match rules/search engine. To facilitate bi-directional data synchronization, CDH maintains cross-reference mapping between a customer record in the Hub and its multiple representations in the enterprise's source systems.

Acquire Customer Data from Different Sources

The Oracle Customer Data Librarian application delivers a comprehensive import workbench designed to facilitate the process of acquiring data. The import console includes a work queue that allows a data steward to manage batches of customer data acquired based on either business user-driven File Load inputs or batch data migration efforts involving the Bulk Import utility. Process-oriented user interfaces allow users to load low and high volumes of data with superior performance, while leveraging key data quality features including duplicate identification and address validation as part of the data acquisition process.

File Load

Oracle Customer Data Librarian's easy to use file load utility facilitates importing files containing customer data. A simple interface guides users through steps needed to identify, map and load low volumes of data with ease.

Bulk Import Administration

Oracle Customer Data Librarian's bulk import screens provide an intuitive, step-by-step flow for setting up and managing bulk imports of data, while delivering functionality that allows for the identification of duplicate records and the validation of addresses being imported. Duplicates can be identified within the batch being imported or against existing records in the customer master, and address validation can be serviced through third-party data cleansing vendors. Additionally, data stewards may perform 'what-if' analyses upon an incoming batch to model the quality of customer data prior to committing it to the master registry.

Identify, Manage and Resolve Duplicate Customer Records

Concise, accurate and complete customer information is essential for optimizing business relationships and opportunities. According to recent studies, poor data quality costs businesses billions of dollars every year in misdirected resources and billions more to recover lost or dissatisfied customers.

Oracle Customer Data Librarian's powerful process-driven capabilities provide a comprehensive workbench to identify, manage, approve, reject, assign and submit

requests to resolve duplicates. These requests may be generated either programmatically by the data steward or through manual submissions by users across the IT landscape--be it from an Oracle E-Business Suite application, a third-party application platform or a legacy system. The duplicate identification and resolution features leverage flexible matching rules, powerful duplicate identification processes, and integrated merge routines.

Configure Flexible Duplicate Match Rules

Oracle Customer Data Librarian uses a highly configurable matching engine DQM (Data Quality Management) that provides the flexibility to either use seeded match rules, or to configure custom match rules. These rules determine the data elements and methods for evaluation of the similarity among customer records. They can be used to control searches across enterprise applications, duplicate prevention during data entry and mass duplicate identification for existing data

Identify Duplicates

Oracle Customer Data Librarian allows for the identification of duplicate customer records through interactive searches or through an automated system duplicate identification batch (SDIB). An SDIB is a process that uses match rules to find all duplicate sets within a defined subset of the database. Information quality professionals can review the duplicate sets online and approve them for resolution. Oracle Customer Data Librarian includes a merge request queue, which is used to approve, reject, assign or submit merge requests.

Resolve Duplicates

There are solutions in the marketplace that provide services to help identify duplicate data, but few of them can actually merge the identified duplicates within the context of your business. The reason for this is that they do not possess the architectural intelligence required to manage all the transactional information tied to each of the records being merged. Upon merging duplicates, E-Business Suite customers benefit from not just the resolution of customer profiles, addresses and relationships but also the consistent reconciliation of related business interactions and transactions.

Through a combination of automation and user interaction, Oracle Customer Data Librarian resolves duplicate customer records by assembling the most comprehensive list of descriptive attributes across all matching records, producing a highly accurate and complete customer identity. In cases where duplicates fall above a configurable match threshold, an auto merge process may also be triggered.

Gain Accurate Insight

Once the source systems have been integrated into the Hub, all transactional, analytical, and real-time systems are capturing and reporting customer information based on a single customer view. With up-to-date, consistent information flowing throughout all systems and available to each employee, your company is poised to achieve a true, 360-degree view of your customers.

Understand Your Customer's Place in the Trading Community

With OCO's extended relationship management capabilities, users can model,

manage, and visualize complex relationships (including hierarchies) amongst members of their trading community to understand how customers and other trading community members interrelate. This functionality allows organizations to make better business decisions and to realize a competitive advantage based on high quality customer information.

Access a Complete Picture of Customer Activity

OCO's Transactions Viewer enables true customer insight by virtually consolidating individual customer interactions and transactions across the enterprise. While the Transactions Viewer is initially configured to display transactions created within Oracle E-Business Suite applications, the configuration can be easily extended to incorporate data from other applications so that end-users have a holistic, 360-degree transactional view of the customer within a single dashboard.

DQM Infrastructure

Oracle DQM provides the infrastructure for companies to perform high quality search, duplicate prevention at the time of data entry and duplicate identification of existing records within the TCA registry. Deploying companies can either leverage existing rules or set up new rules to identify which data elements (attributes) to compare using which methods or algorithms (transformations) that best fit the business purpose to determine a match.

Match Rules

The flexibility of the DQM engine allows a deploying company to create its own definitions of what constitutes a duplicate record. Alternate definitions can be used to support specific business functions. These definitions are called match rules. They may be leveraged to power TCA registry search screens, to prevent duplicate records from entering the TCA registry or to identify duplicate records within the TCA registry. Match rule definition involves assigning scores and weights to individual search attributes and related transformations. This information is coupled with a minimum threshold score to identify two records as an acceptable match.

Word Replacements

Word replacements complement transformations to help define meaningful match rules. Word replacements standardize words to improve the likelihood of finding duplicates. They are especially helpful with identifying similar records that include popular nicknames or abbreviations. Out-of-the-box, DQM comes seeded with a number of word replacement lists relating to street types, US state names, person names, and organization names. Deploying companies can also define word replacements specific to their business, language or cultural needs. Oracle DQM supports both delimited as well as non-delimited word replacement lists to address the matching requirements of global enterprises.

Transformations

Transformation functions alter data stored within specified attributes of the TCA registry for the purpose of matching. Oracle DQM transforms customer records into a form that facilitates the identification of similar records even when words are aliased, inconsistent or misspelled. Out-of-the-box, Oracle DQM ships with several

transformation functions, and offers a framework within which enterprises may create their own custom transformation functions to address their unique business requirements. .

Staging and Synchronization

The DQM engine transforms attributes (e.g., profile information, addresses, phone numbers, email addresses) and stages these elements in a set of tables commonly referred to as the DQM staging tables. DQM performs all the matching against these tables. Staging is typically a one-time operation.   To synch on-going updates as they occur within the TCA registry, DQM offers administrators a synchronization process to complement staging. During its implementation, DQM synchronization may be executed either in real-time or scheduled periodically to enhance end user search & duplicate identification experiences.

Administration

To setup, troubleshoot and tune the DQM infrastructure, an administration console is provided to perform tasks such as extending word replacement lists and transformations, or creating new match rules. Administrators may also use detailed diagnostic reports to perform a 'health check' of the DQM infrastructure. Whenever changes are made to the DQM configuration, the console guides administrators of processes that need to be run for the changes to take effect.

DQM Processes

The application of Oracle DQM can be categorized into three different areas: (1) Smart Search, (2) Duplicate Prevention, and (3) Duplicate Identification.

Smart Search

DQM Smart Search is employed by various search user interfaces within Oracle's E-Business Suite to find matches to criteria provided by the user. In addition to finding exact matches, DQM is particularly good at identifying records that are similar to each other. Smart Search uses configurable match rules to determine if entities are similar enough to be considered a match based on either out-of-the-box or user defined match rules. Word replacements lists and transformations referenced within a given match rule definition drive the behavior of a consuming search interface. The DQM Smart Search feature is also offered as a service for non-Oracle applications to allow search against the TCA registry in a service-oriented manner.

Duplicate Prevention

DQM proactively prevents creation of duplicate customer records by comparing the data entered by the user against similar records that exist in the TCA registry. The DQM Search service may be used to allow consuming applications to search against the TCA registry at the time of data entry and prevent duplicate customer records from being created. From a batch import perspective, duplicates may be prevented from entering the TCA registry by identifying potential duplicates within the incoming batch or by matching records in the batch against the customer records in the registry to prevent duplicate data from being loaded.
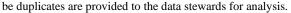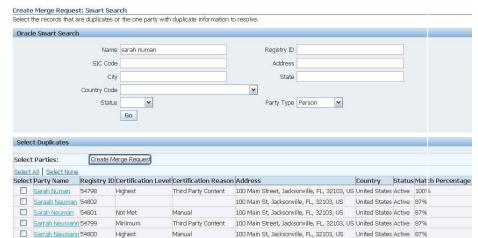
Duplicate Identification

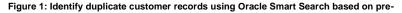Duplicate customer records in the TCA registry can be identified using a batch

process for the purpose of duplicate resolution. Duplicates can be identified either across the entire TCA registry or across a smaller subset at the discretion of a data steward. System generated duplicate identification batches may be scheduled to run periodically and their workload may be distributed using concurrent processes. Score details pertaining to how customer records were matched and determined to be duplicates are provided to the data stewards for analysis.
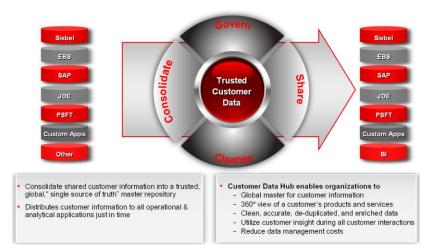

Figure 1: Identify duplicate customer records using Oracle Smart Search based on pre-defined parameters

Figure 2: Oracle Customer Data Hub allows companies to create a single, enterprise view of their customer base, helping them to answer the most important questions about their business, make better business decisions, improve customer satisfaction and reduce costs.

Oracle E-Business Suite—The Complete Solution

Oracle E-Business Suite enables companies to efficiently manage customer processes, manufacture products, ship orders, collect payments, and more—all from applications that are built on unified information architecture. This information architecture provides a single definition of your customers, suppliers, employees,

ORACLE E-BUSINESS SUITE

- Enables real-time, high quality, enterprise-wide customer knowledge by consolidating customer data from disparate systems
- Enriches data centrally, and shares the cleansed master record across the enterprise to provide all users access to a single, accurate customer master identity
- Embedded data quality engine improves integrity through duplicate prevention, identification and resolution
- Integrates with standards based third party data cleansing services
- Standards based Web-Services reduce the total cost of ownership through simplified, low-cost integration

RELATED PRODUCTS

- Oracle Customer Hub Data Steward (Customer Data Librarian)
- Oracle BPEL Process
- Manager

RELATED SERVICES

The following services are available from Oracle Support Services:

- Update Subscription Services
- Product Support Services
- OnlineDBA

and products—all important aspects of your business. Whether you implement one module or the entire Suite, Oracle E-Business Suite enables you to share unified information across the enterprise so you can make smarter decisions with better information.

Contact Us

For more information about Oracle Customer Data Hub, please visit oracle.com or call +1.800.ORACLE1 to speak to an Oracle representative.

Oracle is committed to developing practices and products that help protect the environment

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