SeeBeyond ICAN Suite

eView Studio Reference Guide

Release 5.0.2

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Chapter 1

Introduction

This guide provides comprehensive information about the database structure, the Java API, and message processing for the master indexes created by the SeeBeyond® eView Studio (eView). As a component of SeeBeyond's Integrated Composite Application Network (ICAN) Suite, eView helps you integrate information from disparate systems throughout your organization. This guide describes how messages are processed through the master index, provides a reference for the dynamic Java API, and describes the database structure. The master index is highly customizable, so your implementation may differ from some of the descriptions contained in this guide. This guide is intended to be used with the *eView Studio Configuration Guide* and the *eView Studio User's Guide*.

This chapter provides an overview of this guide and the conventions used throughout, as well as a list of supporting documents and information about using this guide.

1.1 Document Purpose and Scope

This guide provides information about message processing in an eView master index system and about the eView Java API. The API is designed to help you transform data and transfer the information into and out of the master index database using eGate Collaborations, Services, and eWays. This guide also provides an overview of the data processing flow, based on the the sample Project, and describes the database structure.

This guide provides information about the Java API Library, but does not serve as a complete reference. This is provided in the Javadocs for eView. This guide does not explain how to install eView, or how to implement an eView Project. For a list of publications that contain this information, see **"Supporting Documents" on page 10**.

1.1.1. Intended Audience

Any user who works with the connectivity components or uses the Java API should read this guide. A thorough knowledge of eView is not needed to understand this guide. It is presumed that the reader of this guide is familiar with the eGate environment and GUIs, eGate Projects, Oracle database administration, and the Java programming language. The reader should also be familiar with the data formats used by the systems linked to the master index, the operating system(s) on which eGate and the master index database run, and current business processes and information system (IS) setup.

1.1.2. Using this Guide

For best results, skim through the guide to familiarize yourself with the locations of essential information you need. The beginning of each chapter provides introductory information on the topics covered in that chapter. This introductory material contains background and explanatory information you may need to understand before moving into the more detailed information later in the chapter.

This guide compliments the *eView Studio User's Guide*, the *eView Studio Configuration Guide*, and the eView Javadocs. Once you understand the default processing, you can configure eView for your custom data and processing requirements.

1.1.3. Document Organization

This guide is divided into five chapters that cover the topics shown below.

- **Chapter 1 "Introduction"** gives a general preview of this document—its purpose, scope, and organization—and provides sources of additional information.
- **Chapter 2 "eView Studio Overview"** gives an overview of eView and the master index, and of how eView creates a customized master index. It also discusses the architecture, integration servers, and the eView Project.
- **Chapter 3 "Understanding Operational Processes"** gives an overview of how inbound and outbound messages are processed, and includes information about how certain configuration attributes affect processing.
- **Chapter 4 "The Database Structure"** describes the database structure and how the structure is defined based on the object structure definition. It also provides a sample database diagram.
- **Chapter 5 "Working with the Java API"** gives implementation information about the eView Java API, and provides a reference of the dynamic methods created for the method OTD and eInsight integration.

1.2 Writing Conventions

Before you start using this guide, it is important to understand the special notation and mouse conventions observed throughout this document.

1.2.1. Special Notation Conventions

The following special notation conventions are used in this document.

Table 1 Special Notation Conventions

Text	Convention	Example
Titles of publications	Title caps in *italic* font	*eView Studio User's Guide*

Table 1 Special Notation Conventions (Continued)

Text	Convention	Example
Button, Icon, Command, Function, and Menu Names	**Bold** text	▪ Click **OK** to save and close. ▪ From the **File** menu, select **Exit**.
Parameter, Variable, and Method Names	**Bold** text	▪ Use the **executeMatch()** method. ▪ Enter the **field-type** value.
Command Line Code and Code Samples	`Courier` font (variables are shown in ***`bold italic`***)	▪ `bootstrap -p` ***`password`*** ▪ `<tag>Person</tag>`
Hypertext Links	**Blue** text	For more information, see **"Writing Conventions" on page 9**.
File Names and Paths	**Bold** text	To install eView, upload the **eView.sar** file.
Notes	***Bold Italic*** text	***Note:*** *If a toolbar button is dimmed, you cannot use it with the selected component.*

Additional Conventions

Windows Systems—The eView system is fully compliant with Windows NT, Windows 2000, and Windows XP platforms. When this document refers to Windows, such statements apply to all three Windows platforms.

UNIX Systems—This guide uses the backslash (\ ) as the separator within path names. If you are working on a UNIX system, please make the appropriate substitutions.

1.3 Supporting Documents

SeeBeyond has developed a suite of user's guides and related publications that are distributed in an electronic library. The following documents may provide information useful in creating your customized index. In addition, complete documentation of the eView Java API is provided in Javadoc format.

- *eView Studio User's Guide*
- *eView Studio Configuration Guide*
- *Implementing the SeeBeyond Match Engine with eView Studio*
- *Implementing Ascential INTEGRITY with eView Studio*
- *eGate Integrator User's Guide*
- *eGate Integrator System Administration Guide*
- *SeeBeyond ICAN Suite Deployment Guide*

1.4 Online Documents

The documentation for the SeeBeyond ICAN Suite is distributed as a collection of online documents. These documents are viewable with the Acrobat Reader application from Adobe Systems. Acrobat Reader can be downloaded from:

http://www.adobe.com

1.5 SeeBeyond Web Site

The SeeBeyond Web site is your best source for up-to-the-minute product news and technical support information. The site's URL is:

http://www.SeeBeyond.com

Chapter 2

eView Studio Overview

eView allows you to design, configure, and create a master index application that can identify and cross-reference records throughout an organization. This chapter provides overview information about eView and the master indexes it creates.

2.1 Introduction

eView provides a flexible framework to allow you to create matching and indexing applications called enterprise-wide master indexes (or just *master indexes*). It is an application building tool to help you design, configure, and create a master index that will uniquely identify and cross-reference the business objects stored in your system databases. Business objects can be any type of entity for which you store information, such as customers, members, vendors, businesses, hardware parts, and so on. In eView, you define the data structure of the business objects to be stored and cross-referenced. In addition, you define the logic that determines how data is updated, standardized, weighted, and matched in the master index database.

The structure and logic you define is located in a group of XML configuration files that you create using the eView Wizard. These files are created within the context of an eGate Project, and can be further customized using the XML editor provided in the Enterprise Designer.

2.2 eView Components

The components of eView are designed to work within the eGate Enterprise Designer to create and configure the master index, and to define connectivity between external systems and the master index. The primary components of eView are:

- eView Wizard
- Editors
- Project Components
- Environment Components

2.2.1. eView Wizard

The eView Wizard takes you through each step of the master index setup process, and creates the XML files that define the configuration of the application. The eView Wizard allows you to define the name of the master index, the objects to store, the fields in each object and their attributes, the EDM configuration, and the database and match engine platforms to use. The eView Wizard generates a set of configuration files and database scripts based on the information you specify. You can further customize these files as needed.

2.2.2. Editors

eView provides the following editors to help you customize the files generated in the eView Project.

- **XML Editor**—allows you to review and customize the XML configuration files created by the eView Wizard. This editor provides verification services for XML syntax (schema validation is provided by eView). The XML editor is automatically launched when you open an eView configuration file.
- **Text Editor**—allows you to review and customize the database scripts created by the eView Wizard. This editor is very similar to the XML editor but without the verification services. The text editor is automatically launched when you open an eView database script.
- **Java Source Editor**—allows you to create and customize custom plug-in classes for the master index. This editor is a simple text editor, similar to the Java Source Editor in the Collaboration Editor. The Java source editor is automatically launched when you open a custom plug-in file.

2.2.3. Project Components

An eView master index is implemented within a Project in Enterprise Designer. When you create an eView application, a set of configuration files and a set of database files are generated based on the information you specified in the eView Wizard. When you generate the Project, additional components are created, including a method OTD, an outbound OTD, eInsight web page methods, necessary **.jar** files, and a Custom Plug-in function that allows you to define additional, custom processing for the index. To complete the Project, you create a Connectivity Map and Deployment Profile.

Additional eGate components must be added to the client Projects accessing the eView master index, including Services, Collaborations, OTDs, Web Connectors, eWays, JMS Queues, JMS Topics, and so on. You can use the standard Enterprise Designer editors, such as the OTD or Collaboration editors, to create these components.

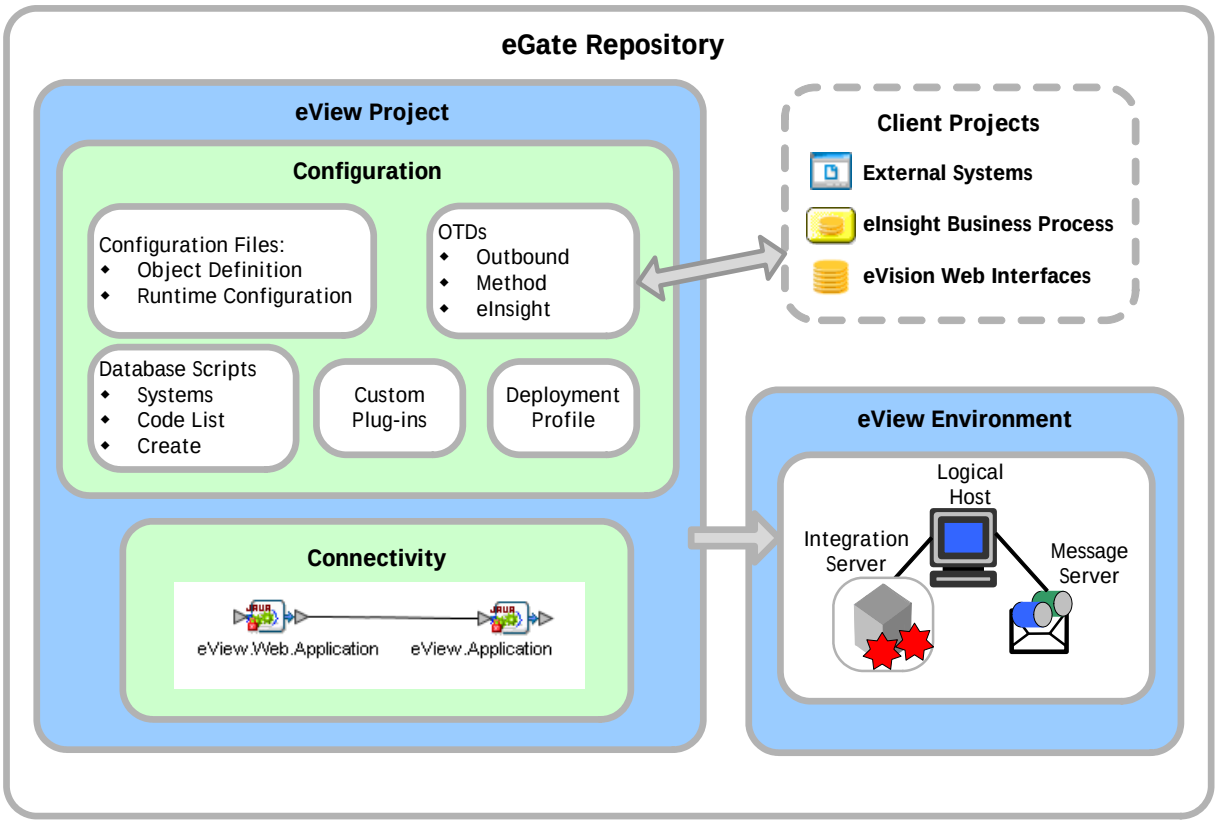
Following is a list of eView Project components.

- Configuration Files
- Database Scripts
- Custom Plug-ins
- Match Engine Configuration Files

- Object Type Definitions
- Dynamic Java Methods
- Connectivity Components
- Deployment Profile

Figure 1 illustrates the Project and Environment components of eView Studio.

Figure 1 eView Project and Environment Components



Configuration Files

Several XML files together determine certain characteristics of the master index, such as how data is processed, queried, and matched. These files configure runtime components of the master index, which are listed in **"Master Index Components" on page 20**.

- **Object Definition**—Defines the data structure of the object being indexed in a master index.
- **Enterprise Data Manager**—Configures the search functions and appearance of the EDM, along with debug information and security information for authorization.
- **Candidate Select**—Configures the Query Builder component of the master index, and defines the queries available for the index.

- **Match Field**—Configures the Matching Service, and defines the fields to be standardized and the fields to use for matching. It also specifies the match and standardization engines to use.
- **Threshold**—Configures the eView Manager Service, and defines certain system parameters, such as match thresholds, EUID attributes, and update modes. It also specifies the query from the Query Builder to use for matching queries.
- **Best Record**—Configures the Update Manager, and defines the strategies used by the survivor calculator to determine the field values for the SBR. It also allows you to define custom update procedures.
- **Field Validation**—Defines rules for validating field values. Rules are predefined for validating the local ID field, and you can create custom validation rules to plug in to this file.
- **Security—**This file is a placeholder to be used in future versions.

Database Scripts

Two database scripts are generated by the eView Wizard: **Systems** and **Code List**. Two additional scripts are created when you generate the Project (or by the wizard if you choose to create all Project files at once).

- **Systems**—Contains the SQL insert statements that add the external systems you specified in the eView Wizard to the database. You can define additional systems in this file. This file is executed after the create script is run.
- **Code List**—Contains the SQL statements to insert processing codes and drop-down list values into the database. You must define these elements in this file to make them available to the master index system.
- **Create database script**—Defines the structure of the master index database based on the object structure defined in the eView Wizard. You can customize this file, and then run it against an Oracle database to create a customized master index database. This file is named the same name as was specified for the eView application in the eView Wizard.
- **Drop database script**—Used primarily in testing, when you need to drop existing database tables and create new ones. The delete script removes all tables related to the master index so you can recreate a fresh database for your Project.

You can also create custom scripts to store in the eView Project and run against the master index database.

Custom Plug-ins

eView provides a method by which you can create custom processing logic for the master index. To do this, you need to define and name a custom plug-in, which is a Java class that performs the required functions. Once you create a custom plug-in, you incorporate it into the index by adding it to the appropriate configuration file. You can create custom update procedures and field validations, as well as define custom eView components. Update procedures must be referenced in the update policies of the Best

Record file; field validations must be referenced in the Field Validation file; and custom components must be referenced in the configuration file for that component.

Match Engine Configuration Files

If you specified the SeeBeyond Match Engine in the eView Wizard, several configuration files for the engine are created in the eView Project. The configuration files under the Match Engine node define certain weighting characteristics and constants for the match engine. The configuration files under the Standardization Engine node define how to standardize names, business names, and address fields. You can customize any of these fields as necessary. For more information, refer to *Implementing the SeeBeyond Match Engine with eView Studio*.

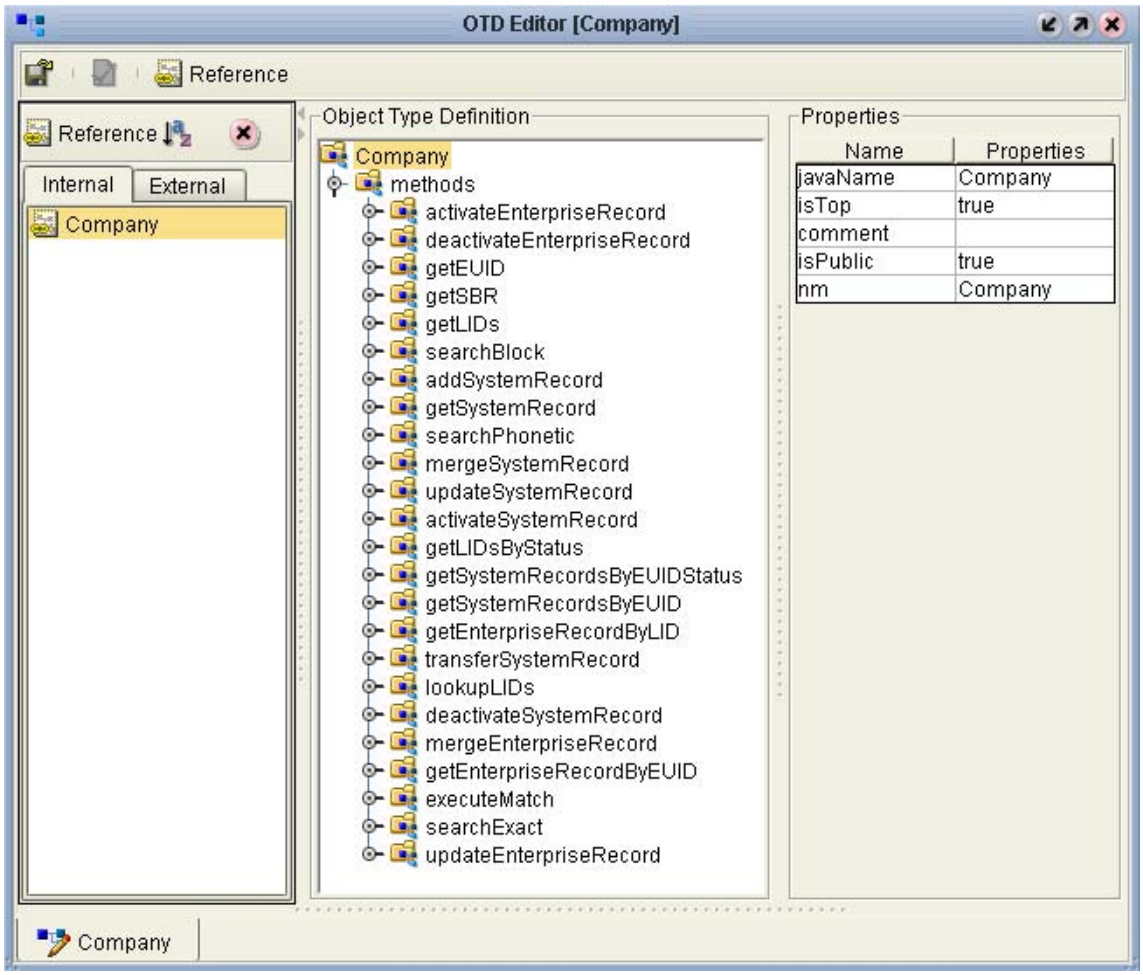
Dynamic Java API

Due to the flexibility of the object structure, eView generates several dynamic Java methods for use in Collaborations and in the Web service. One set is provided in a method OTD for use in Collaborations and one set is provided for Web services. The names, parameter types, and return types of these methods vary based on the objects you defined in the object structure. These methods are described in **"Dynamic Object Classes" on page 55**.

Method OTD

Generating the eView instance creates a method OTD containing Java functions you can use to define data processing rules in Collaborations. These functions allow you to define how messages received from external systems are processed by the Collaboration Service. You can define rules for inserting new records, retrieving record information, updating existing records, performing match processing on incoming records, and so on. Figure 2 illustrates the method OTD in the OTD Editor of Enterprise Designer.

Figure 2 eView Method OTD



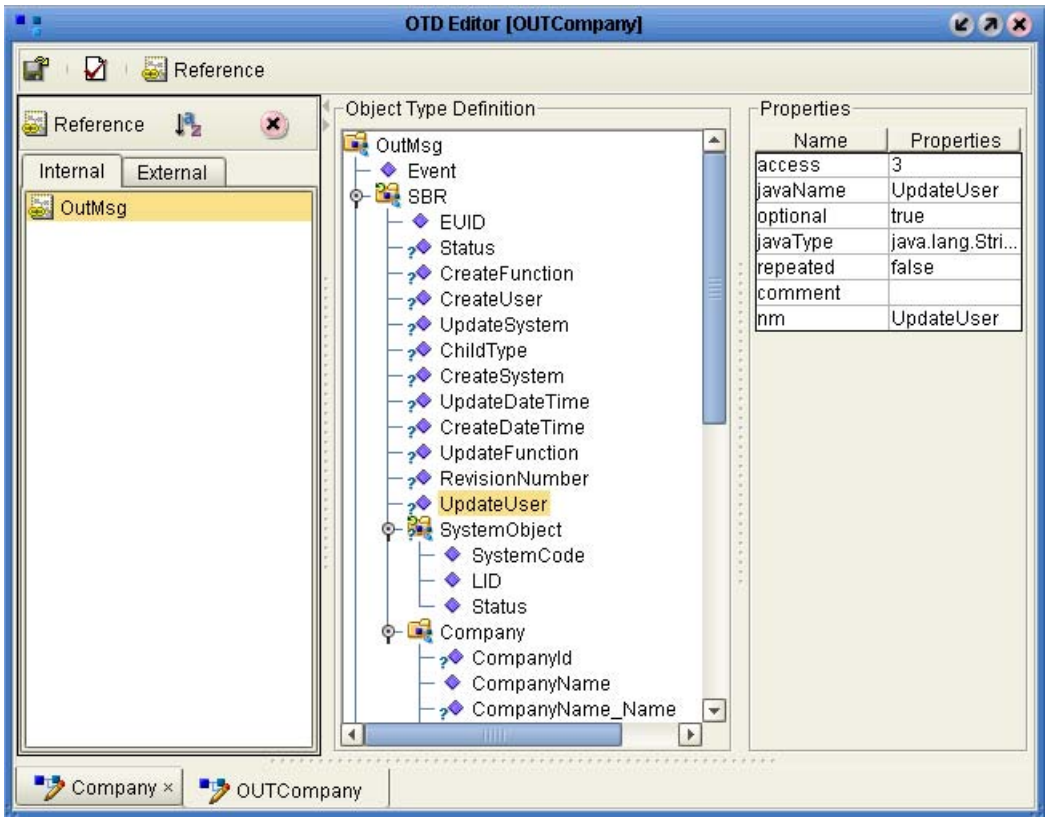
Web Services Java Methods

In addition to the method OTD, which can be used in Collaborations, eView creates a set of Java methods that can be incorporated into an eInsight Business Process for eVision Web services. These methods are a subset of those defined for the method OTD, providing the ability to view, retrieve, and match information in the master index database from eInsight Web pages.

Outbound Object Type Definition (OTD)

eView generates an outbound OTD based on the object structure defined in the Object Definition file. This OTD is used for distributing information that has been added or updated in the master index to the external systems that share data with the master index. It includes the objects and fields defined in the Object Definition file plus additional SBR information (such as the create date and create user) and additional system object information (such as the local ID and system code). If you plan to use this OTD to make the master index data available to external systems, you must define a JMS Topic in the eView Connectivity Map to which the master index can publish transactions.

Figure 3 Outbound OTD



Connectivity Components

The eView Project Connectivity Map consists of two required components: the Web application file and the application file. Two optional components are a JMS Topic for broadcasting messages and an Oracle eWay for database connectivity. In client Project Connectivity Maps you can use any of the standard Project components to define connectivity and data flow to and from the master index. Client Projects include those created for the external systems sharing data with the index and for eVision Web pages.

For the client Projects, you can use connectivity components from the eView server Project and create any standard eGate connectivity components, such as OTDs, Services, Collaborations, JMS Queues, JMS Topics, and eWays. Client Project components transform and route incoming data into the master index database according to the rules contained in the Collaborations. They can also route the processed data back to the appropriate local systems through eWays.

Deployment Profile

The Deployment Profile defines information about the production environment of the master index. It contains information about the assignment of Services and message destinations to integration servers and JMS IQ Managers within the eView system. Each eView Project must have at least one Deployment Profile, and can have several, depending on the Project requirements and the number of Environments used. You

must activate the deployment before you can use the custom master index you created using eView.

2.2.4. Environment Components

The eView Environments define configuration of the deployment environment of the master index, including the Logical Host and application server. If eView client Projects use the same Environment, it may also include a JMS IQ Manager, constants, Web Connectors, and External Systems. Each Environment represents a unit of software that implements one or more eView applications. You must define and configure at least one Environment for the master index before you can deploy the application. The integration server hosting the eView application is configured within the Environment in the Enterprise Designer. Security is defined through the Environment configuration.

For more information about Environments, see the *eGate Integrator User's Guide*.

2.3 Learning about the Master Index

In today's business environment, important information about certain business objects in your organization may exist in many disparate information systems. It is vital that this information flow seamlessly and rapidly between departments and systems throughout the entire business network. As organizations grow, merge, and form affiliations, sharing data between different information systems becomes a complicated task. The master indexes you create from eView can help you manage this data, and ensure that the data you have is the most current and accurate information available.

Regardless of how you define the structure of the business object and configure the runtime environment for the master index, the final product will include much of the same functions and features. The master index provides a cross-reference of centralized information that is kept current by the logic you define for unique identification, matching, and update transactions.

2.3.1. Functions of the Master Index

The master index provides the following functions to help you monitor and maintain the data shared throughout the index system.

- **Transaction History**—The system provides a complete history of each object by recording all changes to each object's data. This history is maintained for both the local system records and the SBR.
- **Data Maintenance**—The web-based user interface supports all the necessary features for maintaining data records. It allows you to add new records; view, update, deactivate, or reactivate existing records; and compare records for similarities and differences. You can also view each local system record associated with an SBR.
- **Search**—The information contained in each SBR or system record can be obtained from the database using a variety of search criteria. You can perform searches

against the database for a specific object or a set of objects. For certain searches, the results are assigned a matching weight that indicates the probability of a match.

- **Potential Duplicate Detection and Handling**—One of the most important features of the master index system is its ability to match records and identify possible duplicates. Using matching algorithm logic, the index identifies potential duplicate records, and provides the functionality to correct the duplication. Potential duplicate records are easily corrected by either merging the records in question or marking the records as "resolved."
- **Merge and Unmerge**—You can compare potential duplicate records and then merge the records if you find them to be actual duplicates of one another. You can merge records at either the EUID or system record level. At the EUID level, you can determine which record to retain as the active record. At the system level, you can determine which record to retain, and which information from each record to preserve in the resulting record.

2.3.2. Master Index Components

The master index created by eView is made up of several components that work together to form the complete indexing system. The primary components of the master index are:

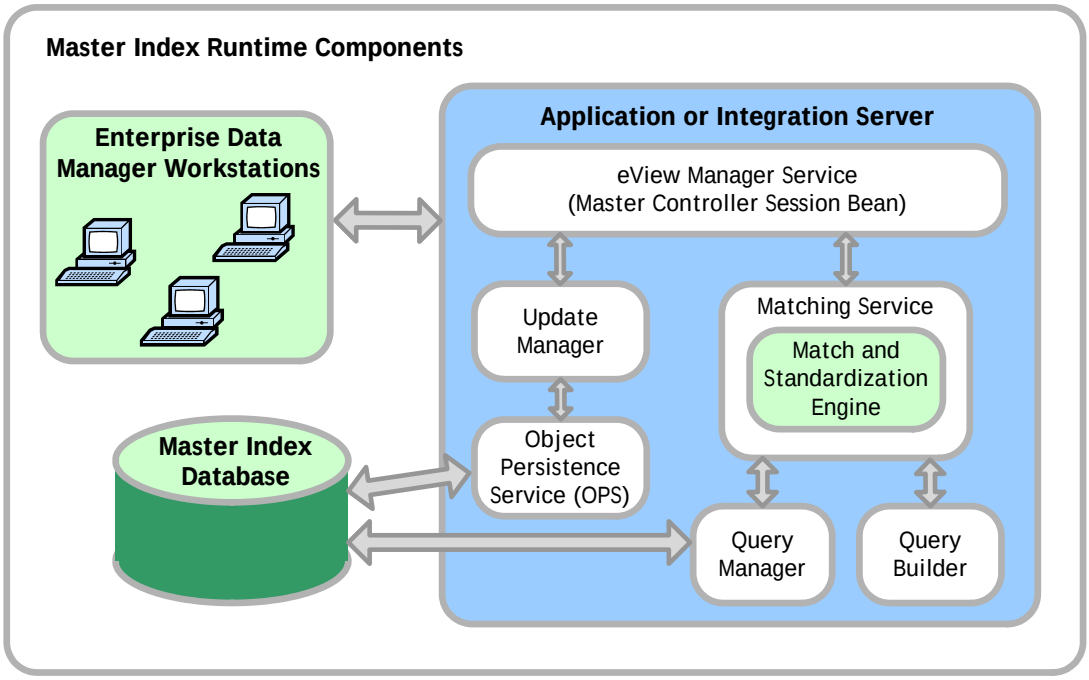
- eView Manager Service
- Matching Service
- Query Builder
- Query Manager
- Update Manager
- Object Persistence Service
- Database
- Enterprise Data Manager

In addition, the master index uses the connectivity components defined in the eView server and client Projects to route data between external systems and the master index.

The eGate Repository stores information about the configuration and structure of the master index environment. Because the master index is deployed within eGate, it can be implemented in a distributed environment. The master index system requires the SeeBeyond Integration Server to enable Web service connectivity.

The components of an eView master index are illustrated in **Figure 4 on page 21**.

Figure 4 eView Master Index Architecture



2.3.3. Matching Service

The Matching Service stores the logic for standardization (which includes data parsing and normalization), phonetic encoding, and matching. It includes the specified standardization and match engines, along with the configuration you defined for each. The Matching Service also contains the data standardization tables and configuration files for the match engine, such as the configuration files for the SeeBeyond Match Engine or the rule set files for INTEGRITY. The configuration of the Matching Service is defined in the *Match Field* file.

2.3.4. eView Manager Service

The eView Manager Service provides a session bean to all components of the master index, such as the Enterprise Data Manager, Query Builder, and Update Manager. The service also provides connectivity to the master index database. The configuration of the eView Manager Service specifies the query to use for matching, and defines system parameters that control EUID generation, matching thresholds, and update modes. The configuration of the eView Manager Service is defined in the *Threshold* file.

2.3.5. Query Builder

The Query Builder defines all queries available to the master index. This includes the queries performed automatically by the master index when searching for possible matches to an incoming record. It also includes the queries performed manually through the Enterprise Data Manager (EDM). The EDM queries can be either

alphanumeric or phonetic, and have the option of using wildcard characters. The configuration of the Query Builder is defined in the *Candidate Select* file.

2.3.6. Query Manager

The Query Manager is a service that performs queries against the master index database and returns a list of objects that match or closely match the query criteria. The Query Manager uses classes specified in the *Match Field* file to determine how to perform a query for match processing. All queries performed in the master index system are executed through the Query Manager.

2.3.7. Update Manager

The Update Manager controls how updates are made to an entity's single best record (SBR) by defining a survivor strategy for each field. The survivor calculator in the Update Manager uses these strategies to determine the relative reliability of the data from external systems and to determine which value for each field is populated into the SBR. The Update Manager also manages certain update policies, allowing you to define additional processing to be performed against incoming data. The configuration of the Update Manager is defined in the *Best Record* file.

2.3.8. Object Persistence Service (OPS)

OPS is a database service that translates high-level and descriptive object requests into actual JDBC calls. The service provides mapping from the Java object to the database and from the database to the Java object.

2.3.9. Database

The master index uses an Oracle database to store the information you specify for the business objects being cross-referenced. The database stores local system records, the single best record for each object record, and certain administrative information, such as drop-down menu lists, processing codes, and information about the systems from which data originates. The scripts that are generated to create the database tables are based on the information specified in the Object Definition file.

2.3.10. Enterprise Data Manager

The Enterprise Data Manager (EDM) is a web-based interface that allows you to monitor and maintain the data in your master index database. Most of the configurable attributes of the EDM are defined by information you specify in the eView Wizard, but you can further configure the EDM in the Enterprise Data Manager file after you generate the eView application. The EDM provides the ability to manually search for records; update, add, deactivate, and reactivate records; merge and unmerge records; view potential duplicates; and view comparisons of object records.

Chapter 3

Understanding Operational Processes

Master indexes created by eView use a custom Java API library and the eGate Integrator to transform and route data into and out of the master index database. In order to customize the way the Java methods transform the data, it is helpful to understand the logic of the primary processing function (executeMatch) and how messages are typically processed through the master index system.

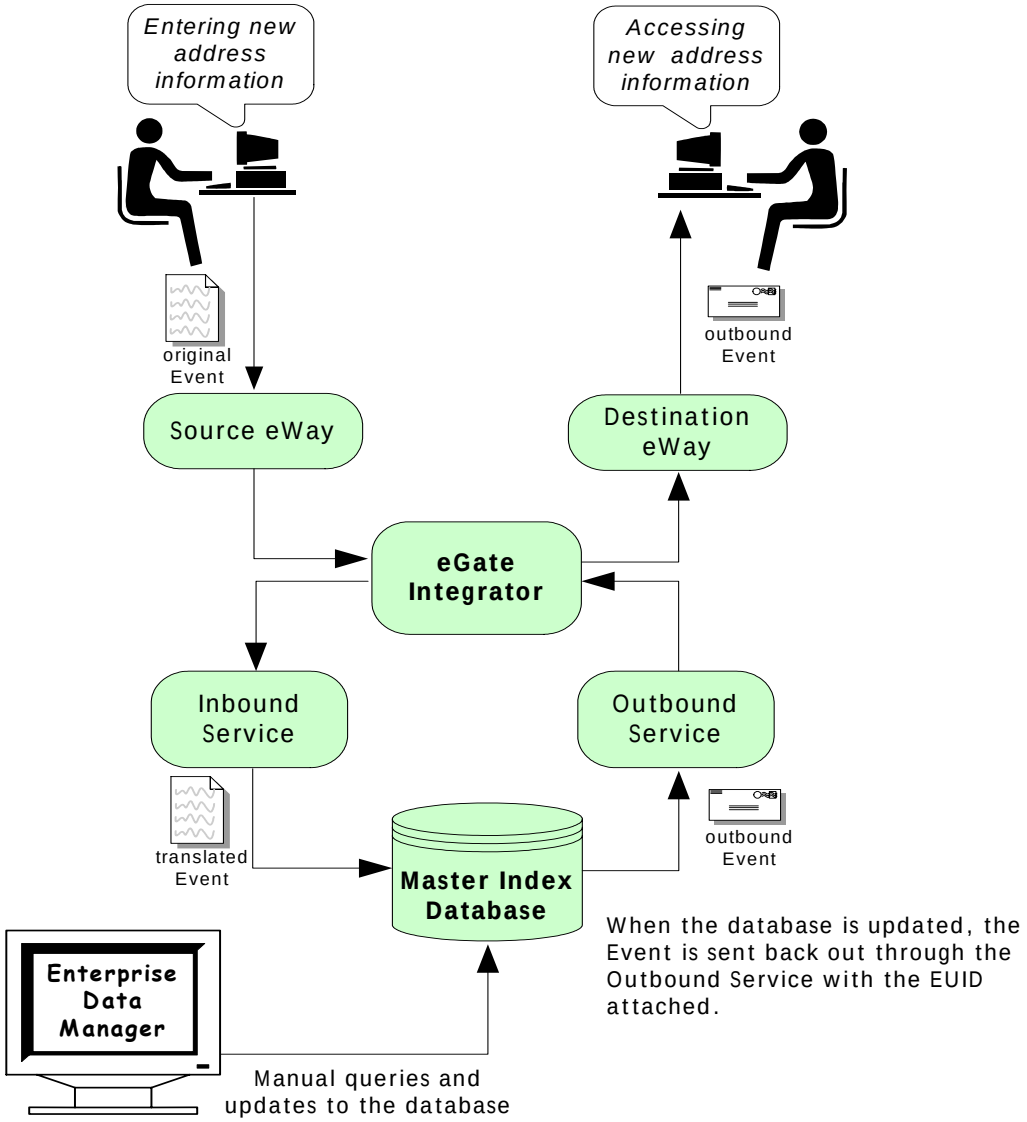
This chapter describes and illustrates the processing flow of messages to and from the master index, providing background information to help design and create custom processing rules for your implementation.

3.1 Learning About Message Processing

This section of the chapter provides a summary of how inbound and outbound messages can be processed in an eView master index environment. A master index cross-references records stored in various computer systems in an organization, and identifies records that might represent or do represent the same object. The master index uses the eGate Integrator, along with the connectivity components available through eGate, to connect to and share data with these external systems.

Figure 5 on page 24 illustrates the flow of information through the master index.

Figure 5 Master Index Processing Flow



3.1.1. Inbound Message Processing

An inbound message refers to the transmission of data from external systems to the eGate Integrator and then to the master index database. These messages may be sent into the database via a number of Services. Inbound messages are stored and tracked in the eGate log files. The steps below describe how inbound messages are processed.

1. Messages are created in an external system, and the enveloped message is transmitted to eGate via that system's eWay.
2. eGate identifies the message and the appropriate Service to which the message should be sent. The message is then routed to the appropriate Service for processing.

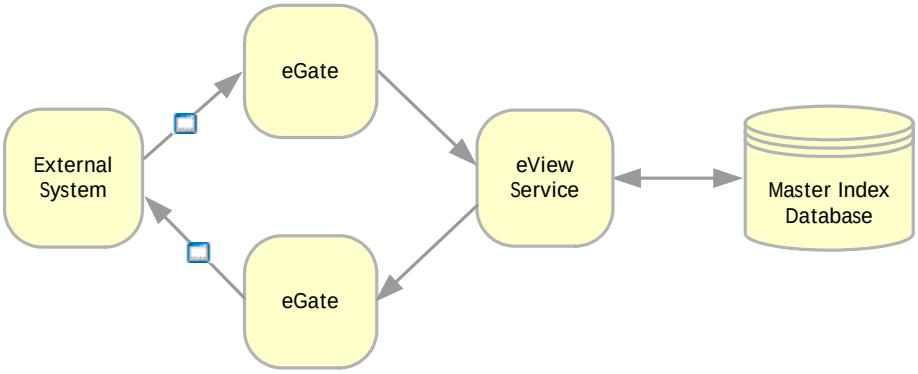
3 The message is modified into the appropriate format for the master index database, and validations are performed against the data elements of the message to ensure accurate delivery. The message is validated using the Java code in the Service's Collaboration and other information stored in the eView configuration files.

4 If the message was successfully transmitted to the database, the appropriate changes to the database are processed.

5 After the master index processes the message, an EUID is returned (for either a new or updated record). That EUID can be sent back out through a different Service to the external system. Alternatively, the entire updated message can be published using the outbound OTD (see **"Outbound Message Processing" on page 26** next).

Figure 6 below illustrates the flow of a message inbound to an eView application.

Figure 6 Inbound Message Processing Data Flow



About Inbound Messages

The format of inbound messages is defined by the inbound OTD, located in the client Project for each external system. The inbound messages can either conform to the required format for the eView master index, or they can be mapped to the correct format in the Collaboration. The required format depends on how the object structure of the master index is defined (in the Object Definition file of the eView Project).

In addition to the objects and fields defined in the Object Definition file, you can include standard eView fields. For example, you must include the system and local ID fields, and you can also include transaction information, such as the date and time of the transaction, the transaction type, user ID, and so on. If you want to use transaction information from the source systems, be sure to include these fields in the OTD. These fields include the user ID of the user who performed the transaction, the date and time of the transaction, and so on. If you do not send these fields into the master index, default values are used (for example, the user ID defaults to "eGate" and the date and time fields default to the date and time the transaction is processed by the master index). The inbound OTD in the eView sample Project includes the system and local ID fields, but not transactional information. The inbound OTD also includes the standard Java methods unmarshalFromString, reset, marshalToString, marshal, and unmarshal.

3.1.2. Outbound Message Processing

An outbound message refers to the transmission of data from the master index database to any external system. Messages can be transmitted from the master index in two ways. The first way is by transmitting the output of **executeMatch** (an EUID). This is described earlier in **"Inbound Message Processing" on page 24**, and is only used for messages received from external systems.

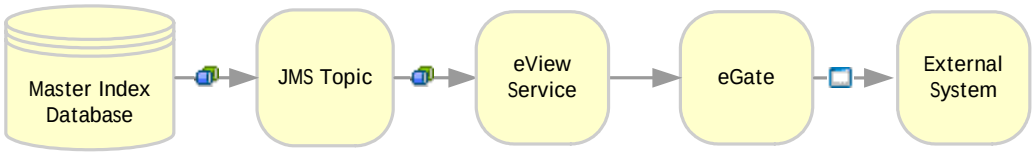
The second way is by publishing messages to a JMS Topic and publishing complete, updated records to any system subscribing to that topic. Outbound messages are generated in the format of the outbound OTD when updates are made to the database from either external systems or the Enterprise Data Manager. This section describes how the second type of outbound message is processed.

1. When a message is received and processed by the master index, an XML message is generated and sent to a JMS Topic, which is configured to publish messages from the master index.
2. Messages published by the JMS Topic are processed through a Service whose Collaboration uses the master index outbound OTD. This Service modifies the message into the appropriate format.
3. eGate identifies the message and the external systems to which it should be sent, and then routes the message for processing via an external system eWay.

Note: *Outbound messages are stored and tracked in the eGate log files.*

Figure 7 below illustrates the flow of data for a message outbound from the master index.

Figure 7 Outbound Message Processing Data Flow



About Outbound Messages

When you customize the object definition and generate the eView application, an outbound OTD is created, the structure of which is based on the object definition. This OTD is used to publish changes in the master index database to external systems via a JMS Topic. The output of the **executeMatch** process described earlier is an EUID of the new or updated record. You can use this EUID to obtain additional information and configure a Collaboration and Service to output the data, or you can process all updates in the master index through a JMS Topic using the outbound OTD.

Outbound OTD Structure

The outbound OTD is named after the application name of the master index (for example, OUTCompany or OUTPerson). The outbound OTD for eView is named "OUTPerson". This OTD contains eight primary nodes: Event, ID, SBR, and the

standard Java methods **unmarshalFromString**, **reset**, **marshalToString**, **marshal**, and **unmarshal**. The "Event" field is populated with the type of transaction that created the outbound message, and the "ID" field is populated with the unique identification code of that transaction. The SBR node is the portion of the OTD created from the Object Definition file. In the eView sample, the outbound OTD publishes messages in XML format. Table 2 describes the components of the SBR portion of the outbound OTD.

Table 2 Outbound OTD SBR Node

Node	Descriptions
EUID	The EUID of the record that was inserted or modified.
Status	The status of the record.
CreateFunction	The date the record was first created.
CreateUser	The logon ID of the user who created the record.
UpdateSystem	The processing code of the external system from which the updates to an existing record originated.
ChildType	The name of the parent object.
CreateSystem	The processing code of the external system from which the record originated.
UpdateDateTime	The date and time the record was last updated.
CreateDateTime	The date and time the record was created.
UpdateFunction	The type of function that caused the record to be modified.
RevisionNumber	The revision number of the record.
UpdateUser	The logon ID of the user who last updated the record.
SystemObject	The fields in this node contain local ID and system information.
SystemCode	The processing code of the system that created the new record or caused an existing record to be updated.
LID	The local ID associated with the above system for the published record.
Status	The status of the system record.
<Object_Name>	The fields in this node are defined by the object structure (as defined in the Object Definition file). It is named by the parent object and contains all fields and child objects defined in the structure. This section varies depending on your customizations.

Outbound Message Trigger Events

When outbound messaging is enabled, the following transactions automatically generate an outbound message that is sent to the JMS Topic.

- Activating a system record
- Activating an enterprise record
- Adding a system record
- Creating an enterprise record
- Deactivating a system record
- Deactivating an enterprise record
- Merging an enterprise record
- Merging a system record
- Transferring a system record
- Unmerging an enterprise record
- Unmerging a system record
- Updating an enterprise record
- Updating a system record

3.1.3. Inbound Message Processing Logic

When records are transmitted to the master index, **executeMatch** is called and a series of processes are performed to ensure that accurate and current data is maintained in the database. In the sample Project configuration, these processes are defined in the Collaboration using the functions defined in the customized method OTD. The steps performed by **executeMatch** are outlined below, and the diagrams on the following pages illustrate the message processing flow. The processing steps performed in your environment may vary from this depending on how you customize the Collaboration and Connectivity Map.

The following steps refer to the following parameters and element in the eView Threshold file (these are described in the *eView Studio Configuration Guide*):

- OneExactMatch parameter
- SameSystemMatch parameter
- MatchThreshold parameter
- DuplicateThreshold parameter
- **update-mode** element

1. When a message is received by the master index, a search is performed for any existing records with the same local ID and system as those contained in the message. This search only includes records with a status of **A**, meaning only active records are included. If a matching record is found, an existing EUID is returned.
2. If an existing record is found with the same system and local ID as the incoming message, it is assumed that the two records represent the same object. Using the EUID of the existing record, the master index performs an update of the record's information in the database.

- If the update does not make any changes to the object's information, no further processing is required and the existing EUID is returned.
- If there are changes to the object's information, the updated record is inserted into database, and the changes are recorded in the sbyn_transaction table.
- If there are changes to key fields (that is, fields used for matching or for the blocking query) and the update mode is set to pessimistic, potential duplicates are re-evaluated for the updated record.

3 If no records are found that match the record's system and local identifier, a second search is performed using the blocking query. A search is performed on each of the defined query blocks to retrieve a candidate pool of potential matches.

Each record returned from the search is weighted using the fields defined for matching in the inbound message.

4 After the search is performed, the number of resulting records is calculated.

- If a record or records are returned from the search with a matching probability weight above the match threshold, the master index performs exact match processing (see Step 5).
- If no matching records are found, the inbound message is treated as a new record. A new EUID is generated and a new record is inserted into the database.

5 If records were found within the high match probability range, exact match processing is performed as follows:

- If only one record is returned from this search with a matching probability that is equal to or greater than the match threshold, additional checking is performed to verify whether the records originated from the same system (see Step 6).
- If more than one record is returned with a matching probability that is equal to or greater than the match threshold and exact matching is set to *false*, then the record with the highest matching probability is checked against the incoming message to see if they originated from the same system (see Step 6).
- If more than one record is returned with a matching probability that is equal to or greater than the match threshold and exact matching is *true*, a new EUID is generated and a new record is inserted into the database.
- If no record is returned from the database search, or if none of the matching records have a weight in the exact match range, a new EUID is generated and a new record is inserted into the database.

Note: *Exact matching is determined by the OneExactMatch parameter, and the match threshold is defined by the MatchThreshold parameter. For more information about these parameters, see the* ***eView Studio Configuration Guide****.*

6 When records are checked for same system entries, the master index tries to retrieve an existing local ID using the system of the new record and the EUID of the record that has the highest match weight.

- If a local ID is found and same system matching is set to *true*, a new record is inserted, and the two records are considered to be potential duplicates. These records are marked as same system potential duplicates.
- If a local ID is found and same system matching is set to *false*, it is assumed that the two records represent the same object. Using the EUID of the existing record, the master index performs an update, following the process described in Step 2 earlier.
- If no local ID is found, it is assumed that the two records represent the same object and an assumed match occurs. Using the EUID of the existing record, the master index performs an update, following the process described in Step 2 earlier.

7 If a new record is inserted, all records that were returned from the blocking query are weighed against the new record using the matching algorithm. If a record is updated and the update mode is pessimistic, the same occurs for the updated record. If the matching probability weight of a record is greater than or equal to the potential duplicate threshold, the record is flagged as a potential duplicate (for more information about thresholds, see the *eView Studio Configuration Guide*).

The flow charts on the following pages provide a visual representation of the processes performed by the default sample Project. Figures 8 and 9 represent the primary flow of information. Figure 10 expands on update procedures illustrated in Figures 8 and 9.

Figure 8 Inbound Message Processing in the Sample Project

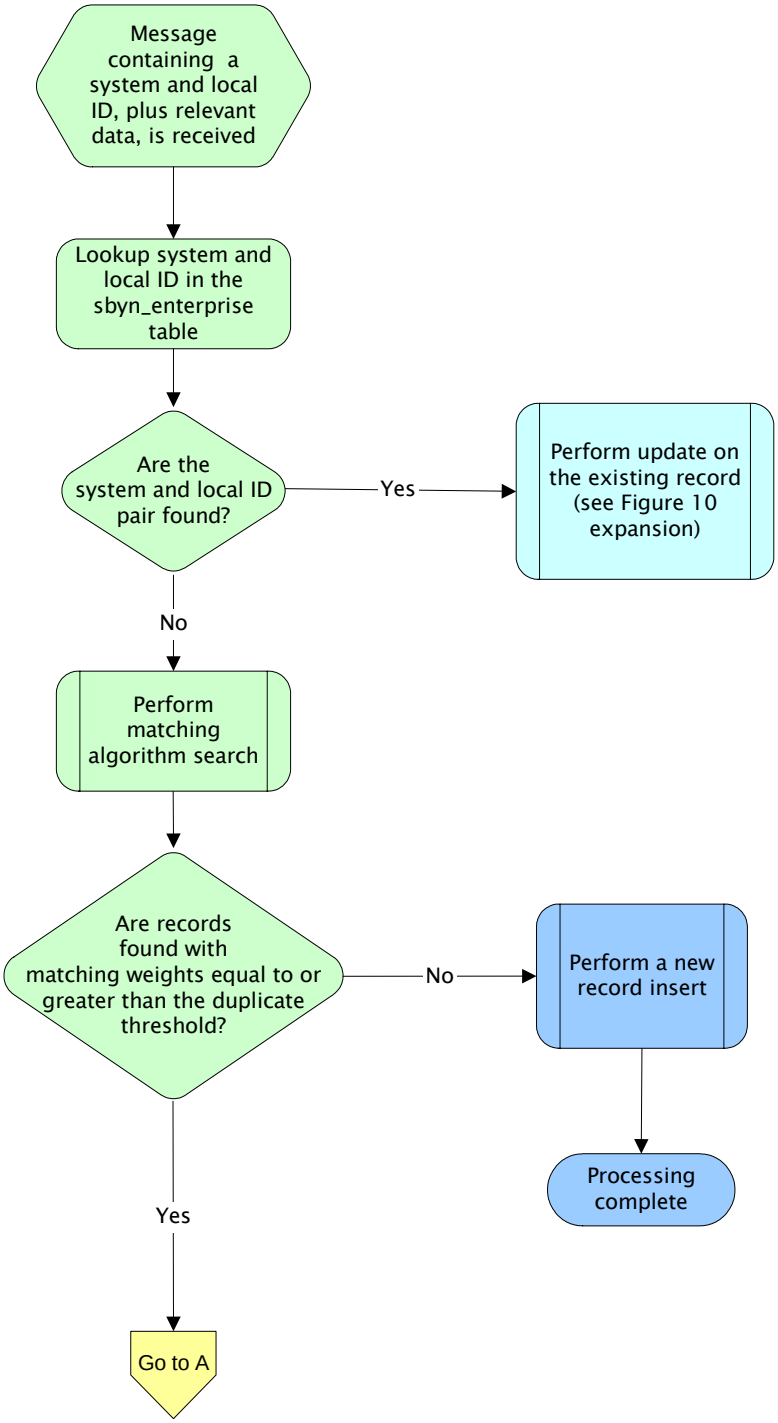


Figure 9 Inbound Message Processing (cont'd)

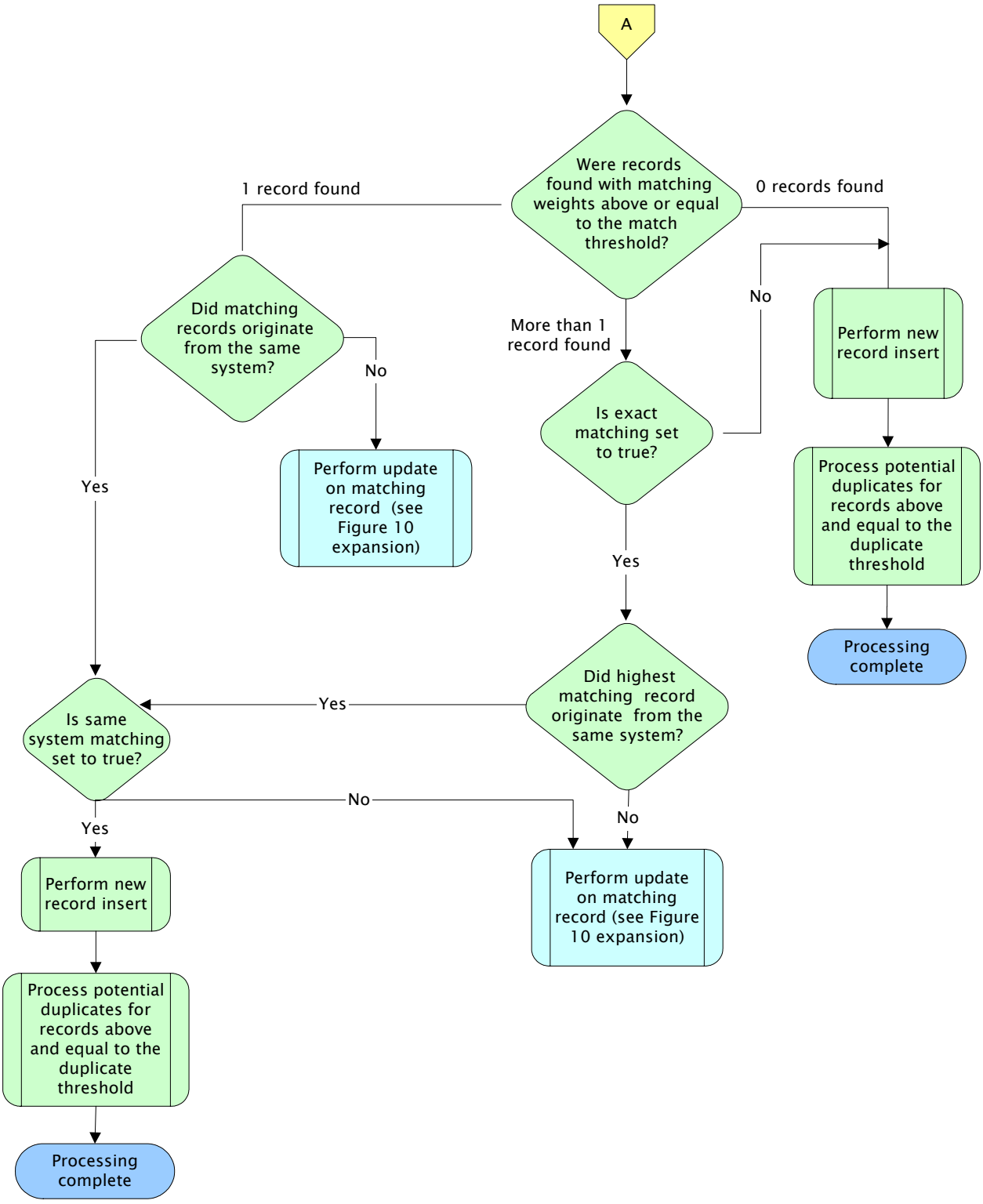
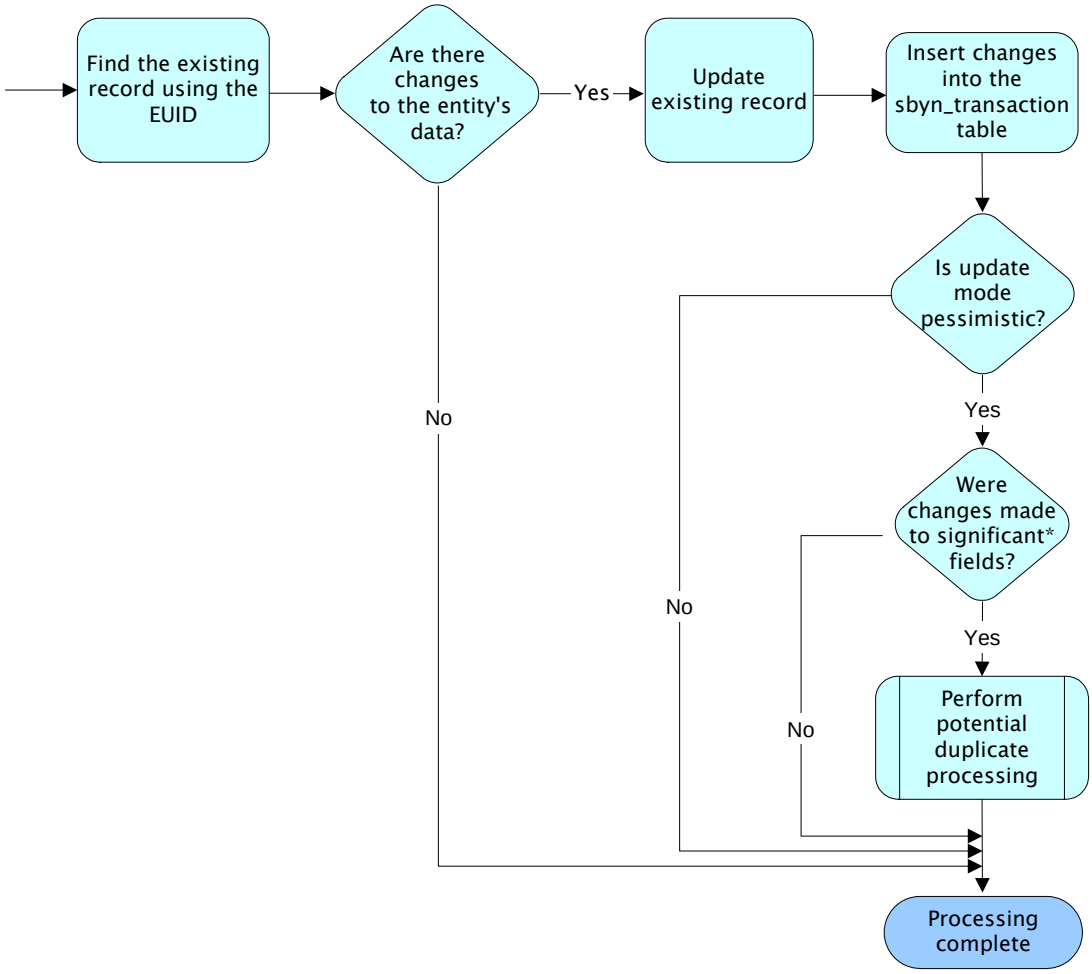


Figure 10 Record Update Expansion



* Significant fields for potential duplicate processing include those defined for matching and those included in the blocking query used for matching

Chapter 4

The Database Structure

This chapter provides information about the master index database, including descriptions of each table and a sample entity relationship diagram. All information in this chapter pertains to the default version of the database. Your implementation may vary depending on the customizations made to the Object Definition and to the scripts used to create the master index database.

4.1 Overview of the Master Index Database

The master index database stores information about the entities being indexed, such as people or businesses. The database stores records from local systems in their original form, and also stores a record for each object that is considered to be the single best record (SBR).

The structure of the database tables that store object information is dependent on the information specified in the Object Definition file created by the eView Wizard. eView creates a script to create the tables and fields in the master index database based on the information in the Object Definition file. This allows you to define the database as you define the object structure.

4.2 Master Index Database Description

While most of the structures created in the database are based on information in the Object Definition file, some of the tables, such as sbyn_seq_table and sbyn_common_detail, are standard for all implementations. This section describes both types of tables and the fields contained in each table.

4.2.1. Database Table Overview

The master index database includes tables that store common maintenance information, transactional information, external system information, and information about the objects stored in the database. The database includes the tables listed in Table 3 on the following page.

Table 3 Master Index Database Tables

Table Name	Description
SBYN_<*OBJECT_NAME*>	Stores information for the parent objects associated with local system records. This database table is named by the parent object name. For example, a table storing company objects is named sbyn_company; a table storing person objects is named sbyn_person. Only one table stores parent object information for system records.
SBYN_<*OBJECT_NAME*>SBR	Stores information for the parent objects associated with single best records. This database table is named by the parent object name followed by "SBR". For example, a table storing company objects is named sbyn_companysbr; a table storing person objects is named sbyn_personsbr. Only one table stores parent object information for SBRs.
SBYN_<*CHILD_OBJECT*>	Stores information for child objects associated with local system records. These database tables are named by their object name. For example, a table storing address objects is named sbyn_address; a table storing comment objects is named sbyn_comment. There may be several tables storing child object information for system records.
SBYN_<*CHILD_OBJECT*>SBR	Stores information for child objects associated with a single best record. These database tables are named by their object name followed by "SBR". For example, a table storing address objects is named sbyn_addresssbr; a table storing comment objects is named sbyn_commentsbr. There may be several tables storing child object information for SBRs.
SBYN_APPL	Lists the applications with which each item in stc_common_header is associated. Currently the only item in this table is **eView**.
SBYN_ASSUMEDMATCH	Stores information about records that were automatically merged by the master index.
SBYN_AUDIT	Stores audit information about each time object information is accessed in the master index database.
SBYN_COMMON_DETAIL	Contains all of the processing codes associated with the items listed in sbyn_common_header.

Table 3 Master Index Database Tables

Table Name	Description
SBYN_COMMON_HEADER	Contains a list of the different types of processing codes used by the master index. These types are also associated with the drop-down lists you can specify for the EDM.
SBYN_ENTERPRISE	Stores the local ID and system pairs, along with their associated EUID.
SBYN_MERGE	Stores information about all merge and unmerge transactions processed from either external systems or the EDM.
SBYN_OVERWRITE	Stores information about fields that are locked for updates in an SBR.
SBYN_POTENTIALDUPLICATES	Stores a list of potential duplicate records and flags potential duplicate pairs that have been resolved.
SBYN_SEQ_TABLE	Stores the sequential codes that are used in other tables in the master index database, such as EUIDs, transaction numbers, and so on.
SBYN_SYSTEMOBJECT	Stores information about the system objects in the database, including the local ID and system, create date and user, status, and so on.
SBYN_SYSTEMS	Stores a list of systems in your organization, along with defining information.
SBYN_SYSTEMSBR	Stores transaction information about an SBR, such as the create or update date, status, and so on.
SBYN_TRANSACTION	Stores a history of changes to each record stored in the database.
SBYN_USER_CODE	Like the sbyn_common_detail table, this table stores processing codes and drop-down list values. This table contains additional validation information that allows you to validate information in a dependent field (for example, to validate cities against the entered postal code).

4.2.2. Database Table Details

The tables on the following pages describe each column in the default master index database tables.

SBYN_<*OBJECT_NAME*>

This table stores the parent object in each system record received by the master index. It is linked to the tables that store each child object in the system record by the **<*object_name*>id** column (where <*object_name*> is the name of the parent object). This

table contains the columns listed below regardless of the design of the object structure, and also contains a column for each field you defined for the parent object in the Object Definition file. Columns to store standardized or phonetic versions of certain fields are automatically added when you specify certain match types in the eView Wizard.

Table 4 SBYN_<*OBJECT_NAME*> Table Description

Column Name	Data Type	Column Description
SYSTEMCODE	VARCHAR2(20)	The system code for the system that produced the EUID record.
LID	VARCHAR2(25)	A local identification code assigned by the specified system.
<*OBJECT_NAME*>ID	Varies	A unique ID for the parent object in a system record. This is named according to the parent object. For example, if the parent object is "Company", the name of this column is "companyid"; if the parent object is "Person", the name of this column is "personid".

SBYN_<*OBJECT_NAME*>SBR

This table stores the parent object of the SBR for each enterprise object in the master index database. It is linked to the tables that store each child object in the SBR by the **<*object_name*>id** column (where <*object_name*> is the name of the parent object). This table contains the columns listed below regardless of the design of the object structure, and also contains a column for each field defined for the parent object in the Object Definition file. In addition, columns to store standardized or phonetic versions of certain fields are automatically added when you specify certain match types in the eView Wizard.

Table 5 SBYN_<*OBJECT_NAME*>SBR Table Description

Column Name	Data Type	Column Description
EUID	VARCHAR2(20)	The enterprise unique identifier assigned by the master index.
<*OBJECT_NAME*>ID	VARCHAR2(20)	A unique ID for the parent object in a system record. This is named according to the parent object. For example, if the parent object is "Company", the name of this column is "companyid"; if the parent object is "Person", the name of this column is "personid".

SBYN_<*CHILD_OBJECT*> and SBYN_<*CHILD_OBJECT*>SBR

The sbyn_<*child_object*> tables (where <*child_object*> is the name of a child object in the object structure) store information about the child objects associated with a system record in the master index. The sbyn_<*child_object*>sbr tables store information about

the child objects associated with an SBR. All tables storing child object information contain the columns listed below. The remaining columns are defined by the fields you specify for each child object in the object structure definition file, including any standardized or phonetic fields.

Table 6 SBYN_<*CHILD_OBJECT*> and SBYN_<*CHILD_OBJECT*>SBR Table Description

Column Name	Data Type	Column Description
<*OBJECT_NAME*>ID	VARCHAR2(20)	The unique identification code for the parent object associated with the child object.
<*CHILD_OBJECT*>ID	VARCHAR2(20)	The unique identification code for each record in the child object table. This column cannot be null.

SBYN_APPL

This table stores information about the applications used in the master index system. Currently, there is only one entry, "eView".

Table 7 SBYN_APPL Table Description

Column Name	Data Type	Description
APPL_ID	NUMBER(10)	The unique sequence number code for the listed application.
CODE	VARCHAR2(8)	A unique code for the application.
DESCR	VARCHAR2(30)	A brief description of the application.
READ_ONLY	CHAR(1)	An indicator of whether the current entry can be modified. If the value of this column is "Y", the entry cannot be modified.
CREATE_DATE	DATE	The date the application entry was created.
CREATE_USERID	VARCHAR2(20)	The logon ID of the user who created the application entry.

SBYN_ASSUMEDMATCH

This table maintains a record of each assumed match transaction that occurs in the master index, allowing you to review these transactions and, if necessary, reverse an assumed match. This table can grow quite large over time; it is recommended that the table be archived periodically.

Table 8 SBYN_ASSUMEDMATCH Table Description

Column Name	Data Type	Description
ASSUMEDMATCHID	VARCHAR2(20)	The unique ID for the assumed match transaction.

Table 8 SBYN_ASSUMEDMATCH Table Description

Column Name	Data Type	Description
EUID	VARCHAR2(20)	The EUID into which the incoming record was merged.
SYSTEMCODE	VARCHAR2(20)	The processing code of the system from which the incoming record originated.
LID	VARCHAR2(25)	The local ID of the record in the source system.
WEIGHT	VARCHAR2(20)	The matching weight between the incoming record and the EUID record into which it was merged.
TRANSACTION NUMBER	VARCHAR2(20)	The transaction number associated with the assumed match transaction.

SBYN_AUDIT

This table maintains a log of each instance in which any of the eView tables are accessed in the master index database through the EDM. This includes each time a record appears on a search results page, a comparison page, the View/Edit page, and so on. This log is only maintained if the EDM is configured for it.

Table 9 SBYN_AUDIT Table Description

Column Name	Data Type	Description
AUDIT_ID	VARCHAR2(20)	The unique identification code for the audit record. This column cannot be null.
PRIMARY_OBJECT_TYPE	VARCHAR2(20)	The name of the parent object as defined in the Object Definition file.
EUID	VARCHAR2(15)	The EUID whose information was accessed during an EDM transaction.
EUID_AUX	VARCHAR2(15)	The second EUID whose information was accessed during an EDM transaction. A second EUID appears when viewing information about merge and unmerge transactions, comparisons, and so on.
FUNCTION	VARCHAR2(32)	The type of transaction that caused the audit record to be written. This column cannot be null.
DETAIL	VARCHAR2(120)	A brief description of the transaction that caused the audit record to be written.
CREATE_DATE	DATE	The date the transaction that created the audit record was performed. This column cannot be null.

Table 9 SBYN_AUDIT Table Description

Column Name	Data Type	Description
CREATE_BY	VARCHAR2(20)	The user ID of the person who performed the transaction that caused the audit log. This column cannot be null.

SBYN_COMMON_DETAIL

This table stores the processing codes and description for all of the common maintenance data elements. This is the detail table for sbyn_common_header. Each data element in sbyn_common_detail is associated with a data type in sbyn_common_header by the **common_header_id** column. None of the columns in this table can be null.

Table 10 SBYN_COMMON_DETAIL Table Description

Column Name	Data Type	Description
COMMON_DETAIL_ID	NUMBER(10)	The unique identification code of the common table data element.
COMMON_HEADER_ID	NUMBER(10)	The unique identification code of the common table data type associated with the data element (as stored in the common_header_id column of the sbyn_common_header table).
CODE	VARCHAR2(20)	The processing code for the common table data element.
DESCR	VARCHAR2(50)	A description of the common table data element.
READ_ONLY	CHAR(1)	An indicator of whether the common table data element can be modified.
CREATE_DATE	DATE	The date the data element record was created.
CREATE_USERID	VARCHAR2(20)	The user ID of the person who created the data element record.

SBYN_COMMON_HEADER

This table stores a description of each type of common maintenance data, and is the header table for sbyn_common_detail. Together, these tables store the processing codes and drop-down menu descriptions for each common table data type. For a person index, common table data types might include Religion, Language, Marital Status, and

so on. For a business index, common table data types might include Address Type, Phone Type, and so on. None of the columns in this table can be null.

Table 11 SBYN_COMMON_HEADER Table Description

Column Name	Data Type	Description
COMMON_HEADER_ID	VARCHAR2(10)	The unique identification code of the common table data type.
APPL_ID	VARCHAR2(10)	The application ID from sbyn_appl that corresponds to the application for which the common table data type is used.
CODE	VARCHAR2(8)	A unique processing code for the common table data type.
DESCR	VARCHAR2(50)	A description of the common table data type.
READ_ONLY	CHAR(1)	An indicator of whether an entry in the table is read-only (if this column is set to "Y", the entry is read-only).
MAX_INPUT_LEN	NUMBER(10)	The maximum number of characters allowed in the code column for the common table data type.
TYP_TABLE_CODE	VARCHAR2(3)	This column is not currently used.
CREATE_DATE	DATE	The date the common table data type record was created.
CREATE_USERID	VARCHAR2(20)	The user ID of the person who created the common table data type record.

SBYN_ENTERPRISE

This table stores a list of all the system and local ID pairs assigned to the enterprise records in the master index database, along with the associated EUID for each pair. This table is linked to sbyn_systemobject by the **systemcode** and **lid** columns, and is linked to sbyn_systemsbr by the **euid** column. This table maintains links between the SBR and its associated system objects. None of the columns in this table can be null.

Table 12 SBYN_ENTERPRISE Table Description

Column Name	Data Type	Description
SYSTEMCODE	VARCHAR2(20)	The processing code of the system associated with the local ID.
LID	VARCHAR2(25)	The local ID associated with the system and EUID.
EUID	VARCHAR2(20)	The EUID associated with the local ID and system.

SBYN_MERGE

This table maintains a record of each merge transaction that occurs in the master index, both through the EDM and the eGate Project. It also records any unmerges that occur.

Table 13 SBYN_MERGE Table Description

Column Name	Data Type	Description
MERGE_ID	VARCHAR2(20)	The unique, sequential identification code of merge record. This column cannot be null.
KEPT_EUID	VARCHAR2(20)	The EUID of the record that was retained after the merge transaction. This column cannot be null.
MERGED_EUID	VARCHAR2(20)	The EUID of the record that was not retained after the merge transaction.
MERGE_TRANSACTIONNUM	VARCHAR2(20)	The transaction number associated with the merge transaction. This column cannot be null.
UNMERGE_TRANSACTIONNUM	VARCHAR2(20)	The transaction number associated with the unmerge transaction.

SBYN_OVERWRITE

This table stores information about the fields that are locked for updates in the SBRs. It stores the EUID of the SBR, the ePath to the field, and the current locked value of the field.

Table 14 SBYN_OVERWRITE Table Description

Column Name	Data Type	Description
EUID	VARCHAR2(20)	The EUID of an SBR containing fields for which the overwrite lock is set.
PATH	VARCHAR2(200)	The ePath to a field that is locked in an SBR from the EDM.
TYPE	VARCHAR2(20)	The data type of a field that is locked in an SBR.
INTEGERDATA	NUMBER(38)	The data that is locked for overwrite in an integer field.
BOOLEANDATA	NUMBER(38)	The data that is locked for overwrite in a boolean field.
STRINGDATA	VARCHAR2(200)	The data that is locked for overwrite in a string field.
BYTEDATA	CHAR(2)	The data that is locked for overwrite in a byte field.
LONGDATA	LONG	The data that is locked for overwrite in a long integer field.

Table 14 SBYN_OVERWRITE Table Description

Column Name	Data Type	Description
DATEDATA	DATE	The data that is locked for overwrite in a date field.
FLOATDATA	NUMBER(38,4)	The data that is locked for overwrite in a floating integer field.
TIMESTAMPDATA	DATE	The data that is locked for overwrite in a timestamp field.

SBYN_POTENTIALDUPLICATES

This table maintains a list of all records that are potential duplicates of one another. It also maintains a record of whether a potential duplicate pair has been resolved or permanently resolved.

Table 15 SBYN_POTENTIALDUPLICATES Table Description

Column Name	Data Type	Description
POTENTIALDUPLICATEID	VARCHAR2(20)	The unique identification number of the potential duplicate transaction.
WEIGHT	VARCHAR2(20)	The matching weight of the potential duplicate pair.
TYPE	VARCHAR2(15)	This column is reserved for future use.
DESCRIPTION	VARCHAR2(120)	A description of what caused the potential duplicate flag.
STATUS	VARCHAR2(15)	The status of the potential duplicate pair. The possible values are: ▪ **U**—Unresolved ▪ **R**—Resolved ▪ **A**—Resolved permanently
HIGHMATCHFLAG	VARCHAR2(15)	This column is reserved for future use.
RESOLVEDUSER	VARCHAR2(30)	The user ID of the person who resolved the potential duplicate status.
RESOLVEDDATE	DATE	The date the potential duplicate status was resolved.
RESOLVEDCOMMENT	VARCHAR2(120)	Comments regarding the resolution of the duplicate status.
EUID2	VARCHAR2(20)	The EUID of the second record in the potential duplicate pair.
TRANSACTIONNUMBER	VARCHAR2(20)	The transaction number associated with the transaction that produced the potential duplicate flag.

Table 15 SBYN_POTENTIALDUPLICATES Table Description

Column Name	Data Type	Description
EUID1	VARCHAR2(20)	The EUID of the first record in the potential duplicate pair.

SBYN_SEQ_TABLE

This table controls and maintains a record of the sequential identification numbers used in various tables in the database, ensuring that each number is unique and assigned in order. Several of the ID numbers maintained in this table are determined by the object structure. The numbers are assigned sequentially, but are allocated in chunks of 1000 numbers for optimization (so the index does not need to query the sbyn_seq_table table for each transaction). The chunk size for the EUID sequence is configurable. If the Repository server is reset before all allocated numbers are used, the unused numbers are discarded and never used, and numbering is restarted at the beginning of the next 1000-number chunk.

Table 16 SBYN_SEQ_TABLE Table Description

Column Name	Data Type	Description
SEQ_NAME	VARCHAR2(20)	The name of the object for which the sequential ID is stored.
SEQ_COUNT	NUMBER(38)	The current value of the sequence. The next record will be assigned the current value plus one.

The default sequence numbers are listed in Table 17.

Table 17 Default Sequence Numbers

Sequence Name	Description
EUID	The sequence number that determines how EUIDs are assigned to new records. The chunk size for the EUID sequence number is configurable in the eView Project Threshold file.
POTENTIALDUPLICATE	The sequence number assigned each potential duplicate transaction record in sbyn_potentialduplicates (column name “potentialduplicateid”).
TRANSACTIONNUMBER	The sequence number assigned to each transaction in the master index. This number is stored in sbyn_transaction (column name “transactionnumber”).
ASSUMEDMATCH	The sequence number assigned to each assumed match transaction record in sbyn_assumedmatch (column name “assumedmatchid”).
AUDIT	The sequence number assigned to each audit log record in sbyn_audit (column name “audit_id”).
MERGE	The sequence number assigned to each merge transaction in sbyn_merge (column name “merge_id”).

Table 17 Default Sequence Numbers

Sequence Name	Description
SBYN_APPL	The sequence number assigned to each application listed in sbyn_appl (column name “appl_id”)
SBYN_COMMON_HEADER	The sequence number assigned to each common table data type listed in sbyn_common_header (column name “common_header_id”).
SBYN_COMMON_DETAIL	The sequence number assigned to each common table data element listed in sbyn_common_detail (column name “common_detail_id”).
<*OBJECT_NAME*>	Each parent and child object system record table is assigned a sequential ID. The column names are named after the object (for example, sbyn_address has a sequential column named “addressid”). The parent object ID is included in each child object table.
<*OBJECT_NAME*>SBR	Each parent and child object SBR table is assigned a sequential ID. The column names are named after the object (for example, sbyn_addresssbr has a sequential column named “addressid”). The parent object ID is included in each child object SBR table.

SBYN_SYSTEMOBJECT

This table stores information about the system records in the database, including their local ID and source system pairs. It also stores transactional information, such as the create or update date and function.

Table 18 SBYN_SYSTEMOBJECT Table Description

Column Name	Data Type	Description
SYSTEMCODE	VARCHAR2(20)	The processing code of the system associated with the local ID. This column cannot be null.
LID	VARCHAR2(25)	The local ID associated with the system and EUID (the associated EUID is found in sbyn_enterprise). This column cannot be null.
CHILDTYPE	VARCHAR2(20)	The type of object being processed (currently only the name of the parent object). This column is reserved for future use.
CREATEUSER	VARCHAR2(30)	The user ID of the person who created the system record.
CREATEFUNCTION	VARCHAR2(20)	The type of transaction that created the system record.
CREATEDATE	DATE	The date the system record was created.

Table 18 SBYN_SYSTEMOBJECT Table Description

Column Name	Data Type	Description
UPDATEUSER	VARCHAR2(30)	The user ID of the person who last updated the system record.
UPDATEFUNCTION	VARCHAR2(20)	The type of transaction that last updated the system record.
UPDATEDATE	DATE	The date the system record was last updated.
STATUS	VARCHAR2(15)	The status of the system record. The status can be one of these values: ▪ **A**—Active ▪ **D**—Deactivated ▪ **M**—Merged

SBYN_SYSTEMS

This table stores information about each system integrated into the master index environment, including the system's processing code and name, a brief description, the format of the local IDs, and whether any of the system information should be masked.

Table 19 SBYN_SYSTEMS Table Description

Column Name	Data Type	Description
SYSTEMCODE	VARCHAR2(20)	The unique processing code of the system.
DESCRIPTION	VARCHAR2(120)	A brief description of the system, or the system name.
STATUS	CHAR(1)	The status of the system in the master index. "A" indicates active and "D" indicates deactivated.
ID_LENGTH	NUMBER	The length of the local identifiers assigned by the system. This length does not include any additional characters added by the input mask.
FORMAT	VARCHAR2(60)	The required data pattern for the local IDs assigned by the system. For more information about possible values and using Java patterns, see "Patterns" in the class list for **java.util.regex** in the Javadocs provided with Java 2Software Development Kit (SDK).

Table 19 SBYN_SYSTEMS Table Description

Column Name	Data Type	Description
INPUT_MASK	VARCHAR2(60)	A mask used by the EDM to add punctuation to the local ID. For example, the input mask **DD-DDD-DDD** inserts a hyphen after the second and fifth characters in an 8-digit ID. These character types can be used. ▪ **D**—Numeric character ▪ **L**—Alphabetic character ▪ **A**—Alphanumeric character
VALUE_MASK	VARCHAR2(60)	A mask used to strip any extra characters that were added by the input mask for database storage. The value mask is the same as the input mask, but with an "x" in place of each punctuation mark. Using the input mask described above, the value mask is **DDxDDDxDDD**. This strips the hyphens before storing the ID.
CREATE_DATE	DATE	The date the system information was inserted into the database.
CREATE_USERID	VARCHAR2(20)	The logon ID of the user who inserted the system information into the database.
UPDATE_DATE	DATE	The most recent date the system's information was updated.
UPDATE_USERID	VARCHAR2(20)	The logon ID of the user who last updated the system's information.

SBYN_SYSTEMSBR

This table stores transactional information about the system records for the SBR, such as the create or update date and function. The sbyn_systemsbr table is indirectly linked to the sbyn_systemobjects table through sbyn_enterprise.

Table 20 SBYN_SYSTEMSBR Table Description

Column Name	Data Type	Description
EUID	VARCHAR2(20)	The EUID associated with system record (the associated system and local ID are found in sbyn_enterprise). This column cannot be null.

Table 20 SBYN_SYSTEMSBR Table Description

Column Name	Data Type	Description
CHILDTYPE	VARCHAR2(20)	The type of object being processed (currently only the name of the parent object). This column is reserved for future use.
CREATESYSTEM	VARCHAR2(20)	The system in which the system record was created.
CREATEUSER	VARCHAR2(30)	The user ID of the person who created the system record.
CREATEFUNCTION	VARCHAR2(20)	The type of transaction that created the system record.
CREATEDATE	DATE	The date the system object was created.
UPDATEUSER	VARCHAR2(30)	The user ID of the person who last updated the system record.
UPDATEFUNCTION	VARCHAR2(20)	The type of transaction that last updated the system record.
UPDATEDATE	DATE	The date the system object was last updated.
STATUS	VARCHAR2(15)	The status of the enterprise record. The status can be one of these values: ▪ **A**—Active ▪ **D**—Deactivated ▪ **M**—Merged
REVISIONNUMBER	NUMBER(38)	The revision number of the SBR. This is used for version control.

SBYN_TRANSACTION

This table stores a history of changes made to each record in the master index, allowing you to view a transaction history and to undo certain actions, such as merging two object profiles.

Table 21 SBYN_TRANSACTION Table Description

Column Name	Data Type	Description
TRANSACTIONNUMBER	VARCHAR2(20)	The unique number of the transaction.
LID1	VARCHAR2(25)	This column is reserved for future use.
LID2	VARCHAR2(25)	The local ID of the second system record involved in the transaction.
EUID1	VARCHAR2(20)	This column is reserved for future use.

Table 21 SBYN_TRANSACTION Table Description

Column Name	Data Type	Description
EUID2	VARCHAR2(20)	The EUID of the second object profile involved in the transaction.
FUNCTION	VARCHAR2(20)	The type of transaction that occurred, such as update, add, merge, and so on.
SYSTEMUSER	VARCHAR2(30)	The logon ID of the user who performed the transaction.
TIMESTAMP	DATE	The date and time the transaction occurred.
DELTA	LONG RAW	A list of the changes that occurred to system records as a result of the transaction.
SYSTEMCODE	VARCHAR2(20)	The processing code of the source system in which the transaction originated.
LID	VARCHAR2(25)	The local ID of the system record involved in the transaction.
EUID	VARCHAR2(20)	The EUID of the enterprise record involved in the transaction.

SBYN_USER_CODE

This table is similar to the sbyn_common_header and sbyn_common_detail tables in that it stores processing codes and drop-down list values. This table is used when the value of one field is dependent on the value of another. For example, if you store credit card information, you could list each credit card type and specify a required format for the credit card number field. The data stored in this table includes the processing code, a brief description, and the format of the dependent fields.

Table 22 SBYN_USER_CODE Table Description

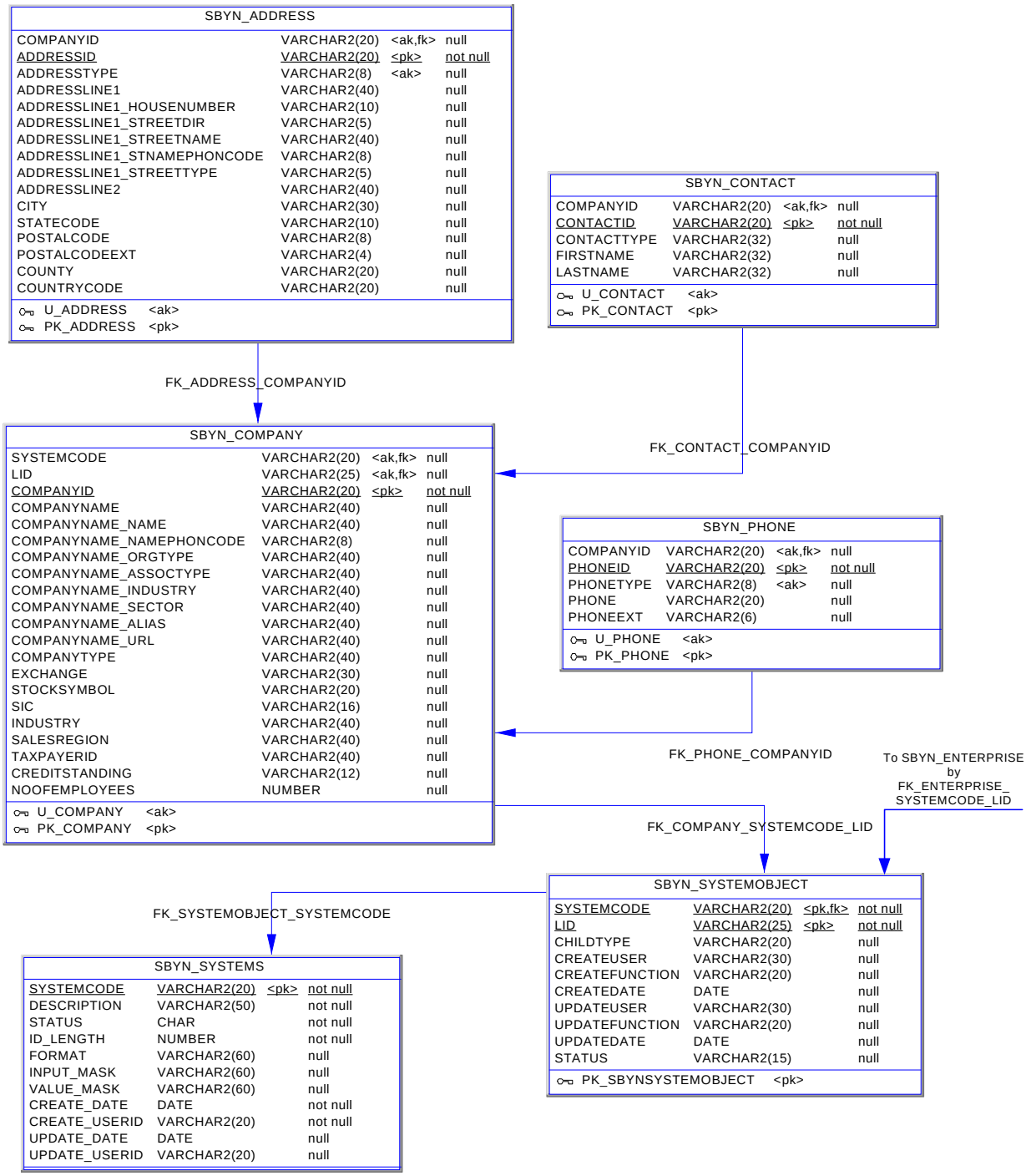
Column Name	Data Type	Description
CODE_LIST	VARCHAR2(20)	The code list name of the user code type (using the credit card example above, this might be similar to "CREDCARD"). This column links the values for each list.
CODE	VARCHAR2(20)	The processing code of each user code element.
DESCRIPTION	VARCHAR2(50)	A brief description or name for the user code. This is the value that appears in the drop-down list.

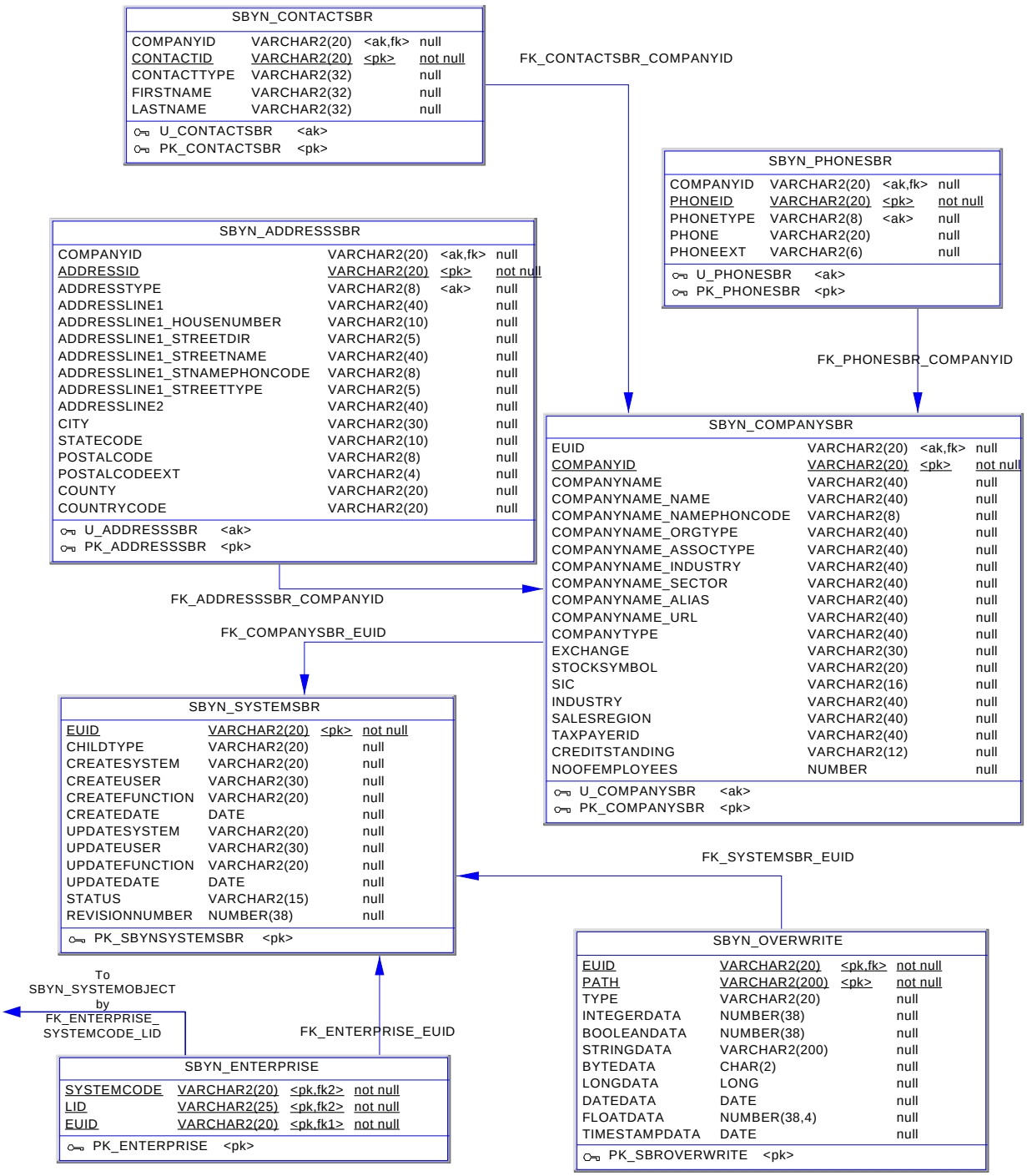
Table 22 SBYN_USER_CODE Table Description

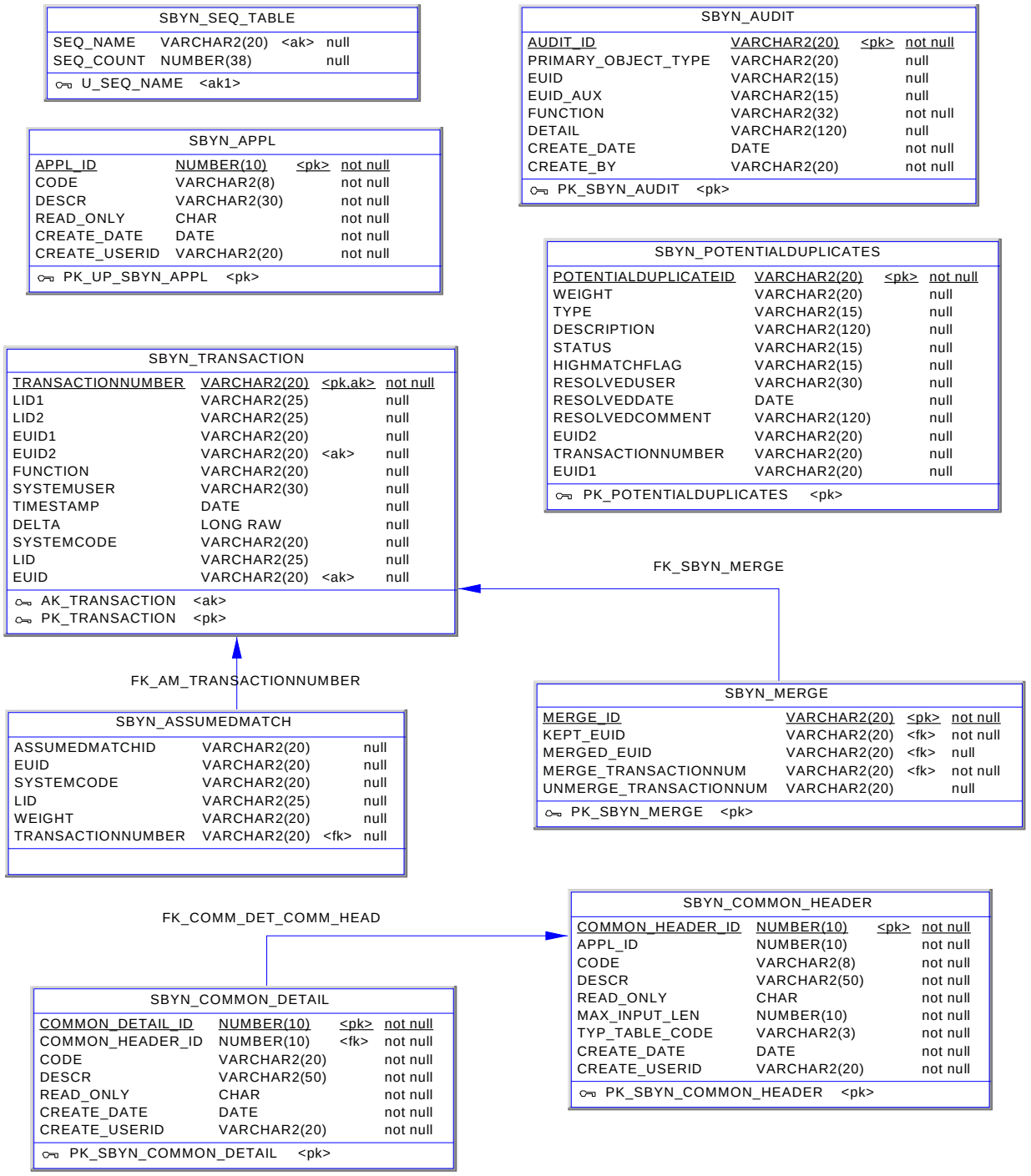
Column Name	Data Type	Description
FORMAT	VARCHAR2(60)	The required data pattern for the field that is constrained by the user code. For more information about possible values and using Java patterns, see "Patterns" in the class list for **java.util.regex** in the Javadocs provided with Java 2Software Development Kit (SDK).
INPUT_MASK	VARCHAR2(60)	A mask used by the EDM to add punctuation to the constrained field. For example, the input mask **DD-DDD-DDD** inserts a hyphen after the second and fifth characters in an 8-digit ID. These character types can be used. ▪ **D**—Numeric character ▪ **L**—Alphabetic character ▪ **A**—Alphanumeric character
VALUE_MASK	VARCHAR2(60)	A mask used to strip any extra characters that were added by the input mask for database storage. The value mask is the same as the input mask, but with an "x" in place of each punctuation mark. Using the input mask described above, the value mask is **DDxDDDxDDD**. This strips the hyphens before storing the ID.

4.3 Sample Database Model

The diagrams on the following pages illustrate the table structure and relationships for a sample eView database designed for storing information about companies. The diagrams display attributes for each database column, such as the field name, data type, whether the field can be null, and primary keys. They also show directional relationships between tables and the keys by which the tables are related.


SBYN_ADDRESS
COMPANYID VARCHAR2(20) <ak,fk> null
ADDRESSID VARCHAR2(20) <pk> not null
ADDRESSTYPE VARCHAR2(8) <ak> null
ADDRESSLINE1 VARCHAR2(40) null
ADDRESSLINE1_HOUSENUMBER VARCHAR2(10) null
ADDRESSLINE1_STREETDIR VARCHAR2(5) null
ADDRESSLINE1_STREETNAME VARCHAR2(40) null
ADDRESSLINE1_STNAMEPHONCODE VARCHAR2(8) null
ADDRESSLINE1_STREETTYPE VARCHAR2(5) null
ADDRESSLINE2 VARCHAR2(40) null
CITY VARCHAR2(30) null
STATECODE VARCHAR2(10) null
POSTALCODE VARCHAR2(8) null
POSTALCODEEXT VARCHAR2(4) null
COUNTY VARCHAR2(20) null
COUNTRYCODE VARCHAR2(20) null
U_ADDRESS <ak>
PK_ADDRESS <pk>
SBYN_CONTACT
COMPANYID VARCHAR2(20) <ak,fk> null
CONTACTID VARCHAR2(20) <pk> not null
CONTACTTYPE VARCHAR2(32) null
FIRSTNAME VARCHAR2(32) null
LASTNAME VARCHAR2(32) null
U_CONTACT <ak>
PK_CONTACT <pk>
FK_ADDRESS_COMPANYID
FK_CONTACT_COMPANYID
SBYN_COMPANY
SYSTEMCODE VARCHAR2(20) <ak,fk> null
LID VARCHAR2(25) <ak,fk> null
COMPANYID VARCHAR2(20) <pk> not null
COMPANYNAME VARCHAR2(40) null
COMPANYNAME_NAME VARCHAR2(40) null
COMPANYNAME_NAMEPHONCODE VARCHAR2(8) null
COMPANYNAME_ORGTYPE VARCHAR2(40) null
COMPANYNAME_ASSOCTYPE VARCHAR2(40) null
COMPANYNAME_INDUSTRY VARCHAR2(40) null
COMPANYNAME_SECTOR VARCHAR2(40) null
COMPANYNAME_ALIAS VARCHAR2(40) null
COMPANYNAME_URL VARCHAR2(40) null
COMPANYTYPE VARCHAR2(40) null
EXCHANGE VARCHAR2(30) null
STOCKSYMBOL VARCHAR2(20) null
SIC VARCHAR2(16) null
INDUSTRY VARCHAR2(40) null
SALESREGION VARCHAR2(40) null
TAXPAYERID VARCHAR2(40) null
CREDITSTANDING VARCHAR2(12) null
NOOFEMPLOYEES NUMBER null
U_COMPANY <ak>
PK_COMPANY <pk>
SBYN_PHONE
COMPANYID VARCHAR2(20) <ak,fk> null
PHONEID VARCHAR2(20) <pk> not null
PHONETYPE VARCHAR2(8) <ak> null
PHONE VARCHAR2(20) null
PHONEEXT VARCHAR2(6) null
U_PHONE <ak>
PK_PHONE <pk>
FK_PHONE_COMPANYID
To SBYN_ENTERPRISE by FK_ENTERPRISE_SYSTEMCODE_LID
FK_COMPANY_SYSTEMCODE_LID
SBYN_SYSTEMOBJECT
SYSTEMCODE VARCHAR2(20) <pk,fk> not null
LID VARCHAR2(25) <pk> not null
CHILDTYPE VARCHAR2(20) null
CREATEUSER VARCHAR2(30) null
CREATEFUNCTION VARCHAR2(20) null
CREATEDATE DATE null
UPDATEUSER VARCHAR2(30) null
UPDATEFUNCTION VARCHAR2(20) null
UPDATEDATE DATE null
STATUS VARCHAR2(15) null
PK_SBYNSYSTEMOBJECT <pk>
FK_SYSTEMOBJECT_SYSTEMCODE
SBYN_SYSTEMS
SYSTEMCODE VARCHAR2(20) <pk> not null
DESCRIPTION VARCHAR2(50) not null
STATUS CHAR not null
ID_LENGTH NUMBER not null
FORMAT VARCHAR2(60) null
INPUT_MASK VARCHAR2(60) null
VALUE_MASK VARCHAR2(60) null
CREATE_DATE DATE not null
CREATE_USERID VARCHAR2(20) not null
UPDATE_DATE DATE null
UPDATE_USERID VARCHAR2(20) null


SBYN_CONTACTSBR
COMPANYID VARCHAR2(20) <ak,fk> null
CONTACTID VARCHAR2(20) <pk> not null
CONTACTTYPE VARCHAR2(32) null
FIRSTNAME VARCHAR2(32) null
LASTNAME VARCHAR2(32) null
U_CONTACTSBR <ak>
PK_CONTACTSBR <pk>
FK_CONTACTSBR_COMPANYID
SBYN_PHONESBR
COMPANYID VARCHAR2(20) <ak,fk> null
PHONEID VARCHAR2(20) <pk> not null
PHONETYPE VARCHAR2(8) <ak> null
PHONE VARCHAR2(20) null
PHONEEXT VARCHAR2(6) null
U_PHONESBR <ak>
PK_PHONESBR <pk>
FK_PHONESBR_COMPANYID
SBYN_ADDRESSSBR
COMPANYID VARCHAR2(20) <ak,fk> null
ADDRESSID VARCHAR2(20) <pk> not null
ADDRESSTYPE VARCHAR2(8) <ak> null
ADDRESSLINE1 VARCHAR2(40) null
ADDRESSLINE1_HOUSENUMBER VARCHAR2(10) null
ADDRESSLINE1_STREETDIR VARCHAR2(5) null
ADDRESSLINE1_STREETNAME VARCHAR2(40) null
ADDRESSLINE1_STNAMEPHONCODE VARCHAR2(8) null
ADDRESSLINE1_STREETTYPE VARCHAR2(5) null
ADDRESSLINE2 VARCHAR2(40) null
CITY VARCHAR2(30) null
STATECODE VARCHAR2(10) null
POSTALCODE VARCHAR2(8) null
POSTALCODEEXT VARCHAR2(4) null
COUNTY VARCHAR2(20) null
COUNTRYCODE VARCHAR2(20) null
U_ADDRESSSBR <ak>
PK_ADDRESSSBR <pk>
FK_ADDRESSSBR_COMPANYID
SBYN_COMPANYSBR
EUID VARCHAR2(20) <ak,fk> null
COMPANYID VARCHAR2(20) <pk> not null
COMPANYNAME VARCHAR2(40) null
COMPANYNAME_NAME VARCHAR2(40) null
COMPANYNAME_NAMEPHONCODE VARCHAR2(8) null
COMPANYNAME_ORGTYPE VARCHAR2(40) null
COMPANYNAME_ASSOCTYPE VARCHAR2(40) null
COMPANYNAME_INDUSTRY VARCHAR2(40) null
COMPANYNAME_SECTOR VARCHAR2(40) null
COMPANYNAME_ALIAS VARCHAR2(40) null
COMPANYNAME_URL VARCHAR2(40) null
COMPANYTYPE VARCHAR2(40) null
EXCHANGE VARCHAR2(30) null
STOCKSYMBOL VARCHAR2(20) null
SIC VARCHAR2(16) null
INDUSTRY VARCHAR2(40) null
SALESREGION VARCHAR2(40) null
TAXPAYERID VARCHAR2(40) null
CREDITSTANDING VARCHAR2(12) null
NOOFEMPLOYEES NUMBER null
U_COMPANYSBR <ak>
PK_COMPANYSBR <pk>
FK_COMPANYSBR_EUID
SBYN_SYSTEMSBR
EUID VARCHAR2(20) <pk> not null
CHILDTYPE VARCHAR2(20) null
CREATESYSTEM VARCHAR2(20) null
CREATEUSER VARCHAR2(30) null
CREATEFUNCTION VARCHAR2(20) null
CREATEDATE DATE null
UPDATESYSTEM VARCHAR2(20) null
UPDATEUSER VARCHAR2(30) null
UPDATEFUNCTION VARCHAR2(20) null
UPDATEDATE DATE null
STATUS VARCHAR2(15) null
REVISIONNUMBER NUMBER(38) null
PK_SBYNSYSTEMSBR <pk>
FK_SYSTEMSBR_EUID
SBYN_OVERWRITE
EUID VARCHAR2(20) <pk,fk> not null
PATH VARCHAR2(200) <pk> not null
TYPE VARCHAR2(20) null
INTEGERDATA NUMBER(38) null
BOOLEANDATA NUMBER(38) null
STRINGDATA VARCHAR2(200) null
BYTEDATA CHAR(2) null
LONGDATA LONG null
DATEDATA DATE null
FLOATDATA NUMBER(38,4) null
TIMESTAMPDATA DATE null
PK_SBROVERWRITE <pk>
To SBYN_SYSTEMOBJECT by FK_ENTERPRISE_SYSTEMCODE_LID
FK_ENTERPRISE_EUID
SBYN_ENTERPRISE
SYSTEMCODE VARCHAR2(20) <pk,fk2> not null
LID VARCHAR2(25) <pk,fk2> not null
EUID VARCHAR2(20) <pk,fk1> not null
PK_ENTERPRISE <pk>


SBYN_SEQ_TABLE
SEQ_NAME VARCHAR2(20) <ak> null
SEQ_COUNT NUMBER(38) null
U_SEQ_NAME <ak1>
SBYN_AUDIT
AUDIT_ID VARCHAR2(20) <pk> not null
PRIMARY_OBJECT_TYPE VARCHAR2(20) null
EUID VARCHAR2(15) null
EUID_AUX VARCHAR2(15) null
FUNCTION VARCHAR2(32) not null
DETAIL VARCHAR2(120) null
CREATE_DATE DATE not null
CREATE_BY VARCHAR2(20) not null
PK_SBYN_AUDIT <pk>
SBYN_APPL
APPL_ID NUMBER(10) <pk> not null
CODE VARCHAR2(8) not null
DESCR VARCHAR2(30) not null
READ_ONLY CHAR not null
CREATE_DATE DATE not null
CREATE_USERID VARCHAR2(20) not null
PK_UP_SBYN_APPL <pk>
SBYN_POTENTIALDUPLICATES
POTENTIALDUPLICATEID VARCHAR2(20) <pk> not null
WEIGHT VARCHAR2(20) null
TYPE VARCHAR2(15) null
DESCRIPTION VARCHAR2(120) null
STATUS VARCHAR2(15) null
HIGHMATCHFLAG VARCHAR2(15) null
RESOLVEDUSER VARCHAR2(30) null
RESOLVEDDATE DATE null
RESOLVEDCOMMENT VARCHAR2(120) null
EUID2 VARCHAR2(20) null
TRANSACTIONNUMBER VARCHAR2(20) null
EUID1 VARCHAR2(20) null
PK_POTENTIALDUPLICATES <pk>
SBYN_TRANSACTION
TRANSACTIONNUMBER VARCHAR2(20) <pk,ak> not null
LID1 VARCHAR2(25) null
LID2 VARCHAR2(25) null
EUID1 VARCHAR2(20) null
EUID2 VARCHAR2(20) <ak> null
FUNCTION VARCHAR2(20) null
SYSTEMUSER VARCHAR2(30) null
TIMESTAMP DATE null
DELTA LONG RAW null
SYSTEMCODE VARCHAR2(20) null
LID VARCHAR2(25) null
EUID VARCHAR2(20) <ak> null
AK_TRANSACTION <ak>
PK_TRANSACTION <pk>
FK_SBYN_MERGE
FK_AM_TRANSACTIONNUMBER
SBYN_MERGE
MERGE_ID VARCHAR2(20) <pk> not null
KEPT_EUID VARCHAR2(20) <fk> not null
MERGED_EUID VARCHAR2(20) <fk> null
MERGE_TRANSACTIONNUM VARCHAR2(20) <fk> not null
UNMERGE_TRANSACTIONNUM VARCHAR2(20) null
PK_SBYN_MERGE <pk>
SBYN_ASSUMEDMATCH
ASSUMEDMATCHID VARCHAR2(20) null
EUID VARCHAR2(20) null
SYSTEMCODE VARCHAR2(20) null
LID VARCHAR2(25) null
WEIGHT VARCHAR2(20) null
TRANSACTIONNUMBER VARCHAR2(20) <fk> null
FK_COMM_DET_COMM_HEAD
SBYN_COMMON_HEADER
COMMON_HEADER_ID NUMBER(10) <pk> not null
APPL_ID NUMBER(10) not null
CODE VARCHAR2(8) not null
DESCR VARCHAR2(50) not null
READ_ONLY CHAR not null
MAX_INPUT_LEN NUMBER(10) not null
TYP_TABLE_CODE VARCHAR2(3) not null
CREATE_DATE DATE not null
CREATE_USERID VARCHAR2(20) not null
PK_SBYN_COMMON_HEADER <pk>
SBYN_COMMON_DETAIL
COMMON_DETAIL_ID NUMBER(10) <pk> not null
COMMON_HEADER_ID NUMBER(10) <fk> not null
CODE VARCHAR2(20) not null
DESCR VARCHAR2(50) not null
READ_ONLY CHAR not null
CREATE_DATE DATE not null
CREATE_USERID VARCHAR2(20) not null
PK_SBYN_COMMON_DETAIL <pk>

Chapter 5

Working with the Java API

eView provides several Java classes and methods to use in the Collaborations for an eView Project. The eView API is specifically designed to help you maintain the integrity of the data in the master index database by providing specific methods for updating, adding, and merging records in the database.

5.1 Overview

This chapter provides an overview of the Java API for eView, and describes the dynamic classes and methods that are generated based on the object structure of the master index. For detailed information about the static classes and methods, refer to the eView Javadocs, provided as a download through the Enterprise Manager. Unless otherwise noted, all classes and methods described in this chapter are **public**. Methods inherited from classes other than those described in this chapter are listed, but not described.

5.1.1. Java Class Types

eView provides a set of static API classes that can be used with any object structure and any eView master index. eView also generates several dynamic API classes that are specific to each master index. The dynamic classes contain similar methods, but the number and names of methods change depending on the object structure. In addition, several methods are generated in an OTD for use in external system Collaborations and another set of methods is generated for use within an eInsight Business Process.

Static Classes

Static classes provide the methods you need to perform basic data cleansing functions against incoming data, such as performing searches, reviewing potential duplicates, adding and updating records, and merging and unmerging records. The primary class containing these functions is the MasterController class, which includes the **executeMatch** method. Several classes support the MasterController class by defining additional objects and functions. Documentation for the static methods is provided in Javadoc format. The static classes are listed and described in the Javadocs provided with eView.

Dynamic Object Classes

When you generate an eView Project, several dynamic methods are created that are specific to the object structure defined for the master index. This includes classes that define each object in the object structure and that allow you to work with the data in each object.

Dynamic OTD Methods

When you generate an eView Project, a method OTD is created that contains Java methods to help you define how records will be processed into the master index database from external systems. These methods rely on the dynamic object classes to create the objects in the master index and to define and retrieve field values for those objects.

Dynamic eInsight Integration Methods

When you generate an eView Project, several methods are listed under the method OTD folder that are designed for use within an eInsight Business Process. These methods are a subset of the eView API that can be used to query a master index database using a web-based interface.

5.2 Dynamic Object Classes

Several dynamic classes are generated for each eView Project for use in Collaborations. One class is created for each parent and child object defined in the Object Structure.

5.2.1. Parent Object Classes

AJava class is created to represent each parent object defined in the object definition of the master index. The methods in these classes provide the ability to create a parent object and to set or retrieve the field values for that object.

The name of each parent object class is the same as the name of each parent object, with the word "Object" appended. For example, if the parent object in your object structure is "Person", the name of the parent class is "PersonObject". The methods in this class include a constructor method for the parent object, and get and set methods for each field defined for the parent object. Most methods have dynamic names based on the name of the parent object and the fields and child objects defined for that object. In the following methods described for the parent object, <*ObjectName*> indicates the name of the parent object, <*Child*> indicates the name of a child object, and <*Field*> indicates the name of a field defined for the parent object.

Definition

```
public class <ObjectName>Object
```

Methods

<*ObjectName*>Object

Description

<*ObjectName*>Object is the user-defined object name class. You can instantiate this class to create a new instance of the parent object class.

Syntax

```
new <ObjectName>Object()
```

Parameters

None.

Returns

An instance of the parent object.

Throws

ObjectException

add<*Child*>

Description

add<*Child*> associates a new child object with the parent object. The new child object is of the type specified in the method name. For example, to associate a new address object with a parent object, call “addAddress”.

Syntax

```
public void add<Child>(<Child>Object <child>)
```

Note: *The type of object passed as a parameter depends on the child object to associate with the parent object. For example, the syntax for associating an address object is as follows:* `public void addAddress(AddressObject address).`

Parameters

Name	Type	Description
<*child*>	<*Child*>Object	A child object to associate with the parent object. The name and type of the parameter is specified by the child object name.

Returns

None.

Throws

None.

addSecondaryObject

Description

addSecondaryObject associates a new child object with the parent object. The object node passed as the parameter defines the child object type.

Syntax

```
public void addSecondaryObject(ObjectNode obj)
```

Parameters

Name	Type	Description
obj	ObjectNode	An ObjectNode representing the child object to associate with the parent object.

Returns

None.

Throws

SystemObjectException

copy

Description

copy copies the structure and field values of the specified object node.

Syntax

```
public ObjectNode copy()
```

Parameters

None.

Returns

A copy of the object node.

Throws

ObjectException

dropSecondaryObject

Description

dropSecondaryObject removes a child object associated with the parent object (in the memory copy of the object). The object node passed in as the parameter defines the child object type. Use this method to remove a child object before it has been committed to the database. This method is similar to ObjectNode.removeChild. Use ObjectNode.deleteChild to remove the child object permanently from the database.

Syntax

```
public void dropSecondaryObject(ObjectNode obj)
```

Parameters

Name	Type	Description
obj	ObjectNode	An ObjectNode representing the child object to drop from the parent object.

Returns

None.

Throws

SystemObjectException

get<*ObjectName*>Id

Description

get<*ObjectName*>Id retrieves the unique identification code (primary key) of the object, as assigned by the master index.

Syntax

```
public String get<ObjectName>Id()
```

Parameters

None.

Returns

A string containing the unique ID of the parent object.

Throws

ObjectException

get<*Field*>

Description

get<*Field*> retrieves the value of the field specified in the method name. Each getter method is named according to the fields defined for the parent object. For example, if the parent object contains a field named "FirstName", the getter method for this field is named "getFirstName".

Syntax

```
public String get<Field>()
```

Note: *The syntax for the getter methods depends of the type of data specified for the field in the object structure. For example, the getter method for a date field would have the following syntax:* `public Date get<Field>`.

Parameters

None.

Returns

The value of the specified field. The type of data returned depends on the data type defined in the object definition.

Throws

ObjectException

get<*Child*>

Description

get<*Child*> retrieves all child objects associated with the parent object that are of the type specified in the method name. For example, to retrieve all address objects associated with a parent object, call "getAddress".

Syntax

```
public Collection get<Child>()
```

Parameters

None.

Returns

A collection of child objects of the type specified in the method name.

Throws

None.

getChildTags

Description

getChildTags retrieves a list of the names of all child object types defined for the object structure.

Syntax

```
public ArrayList getChildTags()
```

Parameters

None.

Returns

An array of child object names.

Throws

SystemObjectException

getMetaData

Description

getMetaData retrieves the metadata for the parent object.

Syntax

```
public AttributeMetaData getMetaData()
```

Parameters

None.

Returns

An AttributeMetaData object containing the parent object's metadata.

Throws

None.

getSecondaryObject

Description

getSecondaryObject retrieves all child objects that are associated with the parent object and are of the specified type.

Syntax

```
public Collection getSecondaryObject(String type)
```

Parameters

Name	Type	Description
type	String	The child type of the objects to retrieve.

Returns

A collection of child objects of the specified type.

Throws

SystemObjectException

getStatus

Description

getStatus retrieves the status of the object.

Syntax

```
public String getStatus()
```

Parameters

None.

Returns

A string containing the status of the object.

Throws

ObjectException

set<*ObjectName*>Id

Description

set<*ObjectName*>Id sets the value of the **<*ObjectName*>Id** field in the parent object.

Syntax

```
public void set<ObjectName>Id(Object value)
```

Parameters

Name	Type	Description
value	Object	An object containing the value of the **<*ObjectName*>Id** field.

Returns

None.

Throws

ObjectException

set<*Field*>

Description

set<*Field*> sets the value of the field specified in the method name. Each setter method is named according to the fields defined for the parent object. For example, if the parent object contains a field named "CompanyName", the setter method for this field is named "setCompanyName". A setter method is created for each field in the parent object, including any fields containing standardized or phonetic data.

Syntax

```
public void set<Field>(Object value)
```

Parameters

Name	Type	Description
value	Object	An object containing the value of the field specified by the method name.

Returns

None.

Throws

ObjectException

setStatus

Description

setStatus sets the status of the parent object.

Syntax

```
public void setStatus(Object value)
```

Parameters

Name	Type	Description
value	Object	An object containing the value of the **status** field.

Returns

None.

Throws

ObjectException

structCopy

Description

structCopy copies the structure of the specified object node.

Syntax

```
public ObjectNode structCopy()
```

Parameters

None.

Returns

A copy of the structure of the object node.

Throws

ObjectException

5.2.2. Child Object Classes

One Java class is created for each child object defined in the object definition of the master index. If the object definition contains three child objects, three child object classes are created. The methods in these classes provide the ability to create the child objects and to set or retrieve the field values for those objects.

The name of each child object class is the same as the name of the child object, with the word "Object" appended. For example, if a child object in your object structure is named "Address", the name of the corresponding child class is "AddressObject". The methods in these classes include a constructor method for the child object, and get and set methods for each field defined for the child object. Most methods have dynamic names based on the name of the child object and the fields defined for that object. In the following methods described for the child objects, <*Child*> indicates the name of the child object and <*Field*> indicates the names of a field defined for that object.

Definition

```
public class <Child>Object
```

Methods

<*Child*>Object

Description

<*Child*>Object is the child object class. This class can be instantiated to create a new instance of a child object class.

Syntax

```
new <Child>Object()
```

Parameters

None.

Returns

An instance of the child object.

Throws

ObjectException

copy

Description

copy copies the structure and field values of the specified object node.

Syntax

```
public ObjectNode copy()
```

Parameters

None.

Returns

A copy of the object node.

Throws

ObjectException

get<*Child*>Id

Description

get<*Child*>Id retrieves the unique identification code (primary key) of the object, as assigned by the master index.

Syntax

```
public String get<Child>Id()
```

Parameters

None.

Returns

A string containing the unique ID of the child object.

Throws

ObjectException

---

get<*Field*>

Description

get<*Field*> retrieves the value of the field specified in the method name. Each getter method is named according to the fields defined for the child object. For example, if the child object contains a field named "TelephoneNumber", the getter method for this field is named "getTelephoneNumber". A getter method is created for each field in the object, including fields that store standardized or phonetic data.

Syntax

```
public String get<Field>()
```

Note: *The syntax for the getter methods depends on the type of data specified for the field in the object structure. For example, the getter method for a date field would have the following syntax:* `public Date get<Field>`.

Parameters

None.

Returns

The value of the specified field. The type of data returned depends on the data type defined in the object definition.

Throws

ObjectException

---

getMetaData

Description

getMetaData retrieves the metadata for the child object.

Syntax

```
public AttributeMetaData getMetaData()
```

Parameters

None.

Returns

An AttributeMetaData object containing the child object's metadata.

Throws

None.

getParentTag

Description

getParentTag retrieves the name of the parent object of the given child object.

Syntax

```
public String getParentTag()
```

Parameters

None.

Returns

A string containing the name of the parent object.

Throws

None.

set<*Child*>Id

Description

set<*Child*>Id sets the value of the **<*Child*>Id** field in the child object.

Syntax

```
public void set<Child>Id(Object value)
```

Parameters

Name	Type	Description
value	Object	An object containing the value of the **<*Child*>Id** field.

Returns

None.

Throws

ObjectException

set<*Field*>

Description

set<*Field*> sets the value of the field specified in the method name. Each setter method is named according to the fields defined for the parent object. For example, if the parent object contains a field named "CompanyName", the setter method for this field is named "setCompanyName".

Syntax

```
public void set<Field>(Object value)
```

Parameters

Name	Type	Description
value	Object	An object containing the value of the field specified by the method name.

Returns

None.

Throws

ObjectException

structCopy

Description

structCopy copies the structure of the specified object node.

Syntax

```
public ObjectNode structCopy()
```

Parameters

None.

Returns

A copy of the structure of the object node.

Throws

ObjectException

5.3 Dynamic OTD Methods

A set of Java methods are created in an OTD for use in the master index Collaborations. These methods wrap static Java API methods, allowing them to work with the dynamic object classes. Many OTD methods return objects of the dynamic object type, or they

use these objects as parameters. In the following methods described for the OTD methods, <*ObjectName*> indicates the name of the parent object.

activateEnterpriseRecord

Description

activateEnterpriseRecord changes the status of a deactivated enterprise object back to active.

Syntax

```
void activateEnterpriseRecord(String euid)
```

Parameters

Name	Type	Description
euid	String	The EUID of the enterprise object to activate.

Returns

None.

Throws

RemoteException

ProcessingException

UserException

activateSystemRecord

Description

activateSystemRecord changes the status of a deactivated system object back to active.

Syntax

```
void activateSystemRecord(String systemCode, String localId)
```

Parameters

Name	Type	Description
systemCode	String	The processing code of the system associated with the system record to be activated.
localID	String	The local identifier associated with the system record to be activated.

Returns

None.

Throws

RemoteException

ProcessingException

UserException

addSystemRecord

Description

addSystemRecord adds the system object to the enterprise object associated with the specified EUID.

Syntax

```
void addSystemRecord(String euid, System<ObjectName> systemObject)
```

Parameters

Name	Type	Description
euid	String	The EUID of the enterprise object to which you want to add the system object.
systemObject	System<*ObjectName*>	The system object to be added to the enterprise object. **Note:** *In the method OTD, "Object" in the parameter name is changed to the name of the parent object. For example, if the parent object is "Company", the name of this parameter will appear as "systemCompany".*

Returns

None.

Throws

RemoteException

ProcessingException

UserException

deactivateEnterpriseRecord

Description

deactivateEnterpriseRecord changes the status of an active enterprise object to inactive.

Syntax

```
void deactivateEnterpriseRecord(String euid)
```

Parameters

Name	Type	Description
euid	String	The EUID of the enterprise object to deactivate.

Returns

None.

Throws

RemoteException

ProcessingException

UserException

deactivateSystemRecord

Description

deactivateSystemRecord changes the status of an active system object to inactive.

Syntax

```
void deactivateSystemRecord(String euid)
```

Parameters

Name	Type	Description
system	String	The system code of the system object to deactivate.
localid	String	The local ID of the system object to deactivate.

Returns

None.

Throws

RemoteException

ProcessingException

UserException

executeMatch

executeMatch processes the system object based on the configuration defined for the eView Manager Service and associated runtime components. This process searches for possible matches in the database and should be executed before inserting or updating a record in the database.

The following runtime components configure **executeMatch**.

- The Query Builder defines the blocking queries used for matching.
- The Threshold file specifies which blocking query to use and specifies matching parameters, including duplicate and match thresholds.
- The pass controller and block picker classes specify how the blocking query is executed.

Important: *If **executeMatch** determines that an existing system record will be updated by the incoming record, it replaces the entire existing record with the information in the new record. This could result in loss of data; for example, if the incoming record does not include all address information, existing address information could be lost. To work around this, you can search for an existing system record prior to calling*

***executeMatch**, and then use methods such as **updateEnterpriseRecord** to perform the updates if needed.*

Syntax

```
MatchColResult executeMatch(System<ObjectName> systemObject)
```

Parameters

Name	Type	Description
systemObject	System<*ObjectName*>	The system object to be added to the enterprise object. **Note:** *In the method OTD, "Object" in the parameter name is changed to the name of the parent object. For example, if the parent object is "Person", the name of this parameter will appear as "systemPerson".*

Returns

A match result object containing the results of the matching process.

Throws

RemoteException

ProcessingException

UserException

---

findMasterController

findMasterController obtains a handle to the MasterController class, providing access to all of the methods of that class. For more information about the available methods, see the Javadoc provided with eView.

Syntax

```
MasterController findMasterController()
```

Parameters

None.

Returns

A handle to the **com.stc.eindex.ejb.master.MasterController** class.

Throws

None.

getEnterpriseRecordByEUID

Description

getEnterpriseRecordByEUID returns the enterprise object associated with the specified EUID.

Syntax

```
Enterprise<ObjectName> getEnterpriseRecordByEUID(String euid)
```

Parameters

Name	Type	Description
euid	String	The EUID of the enterprise object you want to retrieve.

Returns

An enterprise object associated with the specified EUID, or null if the enterprise object is not found.

Throws

RemoteException

ProcessingException

UserException

getEnterpriseRecordByLID

Description

getEnterpriseRecordByLID returns the enterprise object associated with the specified system code and local ID pair.

Syntax

```
Enterprise<ObjectName> getEnterpriseRecordByLID(String system, String
localid)
```

Parameters

Name	Type	Description
system	String	The system code of a system associated with the enterprise object to find.
localid	String	A local ID associated with the specified system.

Returns

An enterprise object, or null if the enterprise object is not found.

Throws

RemoteException

ProcessingException

UserException

getEUID

Description

getEUID returns the EUID of the enterprise object associated with the specified system code and local ID.

Syntax

```
String getEUID(String system, String localid)
```

Parameters

Name	Type	Description
system	String	A known system code for the enterprise object.
localid	String	The local ID corresponding with the given system.

Returns

A string containing an EUID, or null if the EUID is not found.

Throws

RemoteException

ProcessingException

UserException

getLIDs

Description

getLIDs retrieves the local ID and system pairs associated with the given EUID.

Syntax

```
System<ObjectName>PK[] getLIDs(String euid)
```

Parameters

Name	Type	Description
euid	String	The EUID of the enterprise object whose local ID and system pairs you want to retrieve.

Returns

An array of system object keys (System<*ObjectName*>PK objects) or null if no results are found.

Throws

RemoteException

ProcessingException

UserException

getLIDsByStatus

Description

getLIDsByStatus retrieves the local ID and system pairs that are of the specified status and that are associated with the given EUID.

Syntax

```
System<ObjectName>PK[] getLIDsByStatus(String euid, String status)
```

Parameters

Name	Type	Description
euid	String	The EUID of the enterprise object whose local ID and system pairs to retrieve.
status	String	The status of the local ID and system pairs to retrieve.

Returns

An array of system object keys (System<*ObjectName*>PK objects), or null if no system object keys are found.

Throws

RemoteException

ProcessingException

UserException

getSBR

Description

getSBR retrieves the single best record (SBR) associated with the specified EUID.

Syntax

```
SBR<ObjectName> getSBR(String euid)
```

Parameters

Name	Type	Description
euid	String	The EUID of the enterprise object whose SBR you want to retrieve.

Returns

An SBR object, or null if no SBR associated with the specified EUID is found.

Throws

RemoteException

ProcessingException

UserException

getSystemRecord

Description

getSystemRecord retrieves the system object associated with the given system code and local ID pair.

Syntax

```
System<ObjectName> getSystemRecord(String system, String localid)
```

Parameters

Name	Type	Description
system	String	The system code of the system object to retrieve.
localid	String	The local ID of the system object to retrieve.

Returns

A system object containing the results of the search, or null if no system objects are found.

Throws

RemoteException

ProcessingException

UserException

getSystemRecordsByEUID

Description

getSystemRecordsByEUID returns the active system objects associated with the specified EUID.

Syntax

```
System<ObjectName>[] getSystemRecordsByEUID(String euid)
```

Parameters

Name	Type	Description
euid	String	The EUID of the enterprise object whose system objects you want to retrieve.

Returns

An array of system objects associated with the specified EUID.

Throws

RemoteException

ProcessingException

UserException

getSystemRecordsByEUIDStatus

Description

getSystemRecordsByEUIDStatus returns the system objects of the specified status that are associated with the given EUID.

Syntax

```
System<ObjectName>[] getSystemRecordsByEUIDStatus(String euid, String
status)
```

Parameters

Name	Type	Description
euid	String	The EUID of the enterprise object whose system objects you want to retrieve.
status	String	The status of the system objects you want to retrieve.

Returns

An array of system objects associated with the specified EUID, or null if no system objects are found.

Throws

RemoteException

ProcessingException

UserException

lookupLIDs

Description

lookupLIDs first looks up the EUID associated with the specified source system and source local ID. It then retrieves the local ID and system pairs that are associated with that EUID and are from the specified destination system.

Syntax

```
System<ObjectName>PK[] lookupLIDs(String sourceSystem, String
sourceLID, String destSystem, String status)
```

Parameters

Name	Type	Description
sourceSystem	String	The system code of the known system and local ID pair.
sourceLID	String	The local ID of the known system and local ID pair.
destSystem	String	The system from which the local ID and system pairs to retrieve originated.
status	String	The status of the local ID and system pairs to retrieve.

Returns

An array of system object keys (System<*ObjectName*>PK objects).

Throws

RemoteException

ProcessingException

UserException

mergeEnterpriseRecord

Description

mergeEnterpriseRecord merges two enterprise objects, specified by their EUIDs.

Syntax

```
Merge<ObjectName>Result mergeEnterpriseRecord(String fromEUID, String
toEUID, boolean calculateOnly)
```

Parameters

Name	Type	Description
fromEUID	String	The EUID of the enterprise object that will not survive the merge.
toEUID	String	The EUID of the enterprise object that will not survive the merge.
calculateOnly	boolean	An indicator of whether to commit changes to the database or to simply compute the merge results. Specify **false** to commit the changes.

Returns

A merge result object containing the results of the merge.

Throws

RemoteException

ProcessingException

UserException

---

mergeSystemRecord

Description

mergeSystemRecord merges two system objects, specified by their local IDs, from the specified system. The system objects can belong to a single enterprise object or to two different enterprise objects.

Syntax

```
Merge<ObjectName>Result mergeSystemRecord(String sourceSystem, String
sourceLID, String destLID, boolean calculateOnly)
```

Parameters

Name	Type	Description
sourceSystem	String	The processing code of the system to which the two system objects belong.
sourceLID	String	The local ID of the system object that will not survive the merge.
destLID	String	The local ID of the system object that will survive the merge.
calculateOnly	boolean	An indicator of whether to commit changes to the database or to simply compute the merge results. Specify **false** to commit the changes.

Returns

A merge result object containing the results of the merge.

Throws

RemoteException

ProcessingException

UserException

searchBlock

Description

searchBlock performs a blocking query against the database using the blocking query specified in the Threshold file and the criteria contained in the specified object bean.

Syntax

```
Search<ObjectName>Result searchBlock(<ObjectName>Bean searchCriteria)
```

Parameters

Name	Type	Description
searchCriteria	<*ObjectName*>Bean	The search criteria for the blocking query.

Returns

The results of the search.

Throws

RemoteException

ProcessingException

UserException

searchExact

Description

searchExact performs an exact match search using the criteria specified in the object bean. Only records that exactly match the search criteria are returned in the search results object.

Syntax

```
Search<ObjectName>Result searchExact(<ObjectName>Bean searchCriteria)
```

Parameters

Name	Type	Description
searchCriteria	<*ObjectName*>Bean	The search criteria for the exact match search.

Returns

The results of the search stored in a Search<*ObjectName*>Result object.

Throws

RemoteException

ProcessingException

UserException

searchPhonetic

Description

searchPhonetic performs search using phonetic values for some of the criteria specified in the object bean. This type of search allows for typos and misspellings.

Syntax

```
Search<ObjectName>Result searchPhonetic(<ObjectName>Bean
searchCriteria)
```

Parameters

Name	Type	Description
searchCriteria	<*ObjectName*>Bean	The search criteria for the phonetic search.

Returns

The results of the search.

Throws

RemoteException

ProcessingException

UserException

transferSystemRecord

Description

transferSystemRecord transfers a system record from one enterprise record to another enterprise record.

Syntax

```
void transferSystemRecord(String toEUID, String systemCode, String
localID)
```

Parameters

Name	Type	Description
toEUID	String	The EUID of the enterprise record to which the system record will be transferred.
systemCode	String	The processing code of the system record to transfer.
localID	String	The local ID of the system record to transfer.

Returns

None.

Throws

RemoteException

ProcessingException

UserException

updateEnterpriseRecord

Description

updateEnterpriseRecord updates an existing enterprise object in the master index database with the new values of the specified enterprise object.

Syntax

```
void updateEnterpriseRecord(Enterprise<ObjectName> enterpriseObject)
```

Parameters

Name	Type	Description
enterpriseObject	Enterprise<*ObjectName*>	The enterprise object to be updated.

Returns

None.

Throws

RemoteException

ProcessingException

UserException

updateSystemRecord

Description

updateSystemRecord updates the existing system object in the database with the given system object.

Syntax

```
void updateSystemRecord(System<ObjectName> systemObject)
```

Parameters

Name	Type	Description
systemObject	System<*ObjectName*>	The system object to be updated to the enterprise object. **Note:** *In the method OTD, "Object" in the parameter name is changed to the name of the parent object. For example, if the parent object is "Person", the name of this parameter will appear as "systemPerson".*

Returns

None.

Throws

RemoteException

ProcessingException

UserException

5.4 Dynamic eInsight Integration Methods

A set of Java methods are created in the eView Project for use in eInsight interfaces. These methods include a subset of the dynamic OTD methods, which are documented above. Many of these methods return objects of the dynamic object type, or they use these objects as parameters. In the descriptions for these methods, <*ObjectName*> indicates the name of the parent object.

The following methods are available for eInsight interfaces. They are described in the previous section, **"Dynamic OTD Methods"**.

5.5 Helper Classes

Helper classes include objects that can be passed as parameters to an OTD method or an eInsight integration method. They also include the methods that you can access through the system<*ObjectName*> variable in the eView Collaboration (where <*ObjectName*> is the name of a parent object.

5.5.1. System<*ObjectName*>

In order to run **executeMatch** in a Java Collaboration, you must define a variable of the class type System<*ObjectName*>, where <*ObjectName*> is the name of a parent object. This class is passed as a parameter to **executeMatch**. The class contains a constructor method and several get and set methods for system fields. It also includes one field that specifies the value of the "clear field character" (for more information, see **"ClearFieldIndicator Field" on page 85**). In the methods described in this section, <*ObjectName*> indicates the name of the parent object, <*Child*> indicates the name of a child object, and <*Field*> indicates the name of a field defined for the parent object.

Definition

```
public class System<ObjectName>
```

Fields

Methods

Inherited Methods

The following methods are inherited from java.lang.Object.

- equals
- hashcode
- notify
- notifyAll

- toString
- wait()
- wait(long arg)
- wait(long timeout, int nanos)

ClearFieldIndicator Field

The **ClearFieldIndicator** field allows you to specify whether to treat a field in the primary parent object as null when performing an update from an external system. When an update is performed in the master index, empty fields typically do not overwrite the value of an existing field. You can specify to nullify a field that already has an existing value in the master index by entering an indicator in that field. This indicator is specified by the **ClearFieldIndicator** field. By default, the **ClearFieldIndicator** field is set to double-quotes (""), so if a field is set to double-quotes, that field will be blanked out. If you do not want to use this feature, set the clear field indicator to null.

System<*ObjectName*>

Description

System<*ObjectName*> is the user-defined system class for the parent object. You can instantiate this class to create a new instance of the system class.

Syntax

```
new System<ObjectName>()
```

Parameters

None.

Returns

An instance of the System<*ObjectName*> class.

Throws

ObjectException

getClearFieldIndicator

Description

getClearFieldIndicator retrieves the value of the **ClearFieldIndicator** field.

Syntax

```
public String getClearFieldIndicator()
```

Parameters

None.

Returns

A String containing the value of the **ClearFieldIndicator** field.

Throws

None.

---

get<*Field*>

Description

get<*Field*> retrieves the value of the specified system field. There are getter methods for the following fields: LocalId, SystemCode, Status, CreateDateTime, CreateFunction, and CreateUser.

Syntax

```
public String get<Field>()
```

or

```
public Date get<Field>()
```

Parameters

None.

Returns

The value of the specified field. The type of value returned depends on the field from which the value was retrieved.

Throws

ObjectException

---

get<*ObjectName*>

Description

get<*ObjectName*> retrieves the parent object Java Bean for the system record (where <*ObjectName*> is the name of the parent object).

Syntax

```
public <ObjectName>Bean get<ObjectName>()
```

Parameters

None.

Returns

A Java Bean containing the parent object.

Throws

None.

setClearFieldIndicator

Description

setClearFieldIndicator sets the value of the clear field character (in the **ClearFieldIndicator** field). By default, this is set to double quotes ("").

Syntax

```
public void setClearFieldIndicator(String value)
```

Parameters

Name	Type	Description
value	String	The value that should be entered into a field to indicate that any existing values should be replaced with null.

Returns

None.

Throws

None.

set<*Field*>

Description

set<*Field*> sets the value of the specified system field. There are setter methods for the following fields: LocalId, SystemCode, Status, CreateDateTime, CreateFunction, and CreateUser.

Syntax

```
public void set<Field>(value)
```

Parameters

Name	Type	Description
value	varies	The value to set in the specified field. The type of value depends on the field into which the value is being set.

Returns

None.

Throws

ObjectException

set<*ObjectName*>

Description

set<*ObjectName*> sets the parent object Java Bean for the system record (where <*ObjectName*> is the name of the parent object).

Syntax

```
public String set<ObjectName>(<ObjectName>Bean object)
```

Parameters

Name	Type	Description
object	<ObjectName>Bean	The Java Bean for the parent object.

Returns

None.

Throws

ObjectException

5.5.2. Parent Beans

A Java Bean is created to represent each parent object defined in the object definition of the master index. The methods in these classes provide the ability to create a parent object Bean and to set or retrieve the field values for that object Bean.

The name of each parent object Bean class is the same as the name of each parent object, with the word "Bean" appended. For example, if a parent object in your object structure is "Person", the name of the associated parent Bean class is "PersonBean". The methods in this class include a constructor method for the parent object Bean, and get and set methods for each field defined for the parent object. Most methods have dynamic names based on the name of the parent object and the fields and child objects defined for that object. In the methods described in this section, <*ObjectName*> indicates the name of the parent object, <*Child*> indicates the name of a child object, and <*Field*> indicates the name of a field defined for the parent object.

Definition

```
public final class <ObjectName>Bean
```

Methods

- get<Child> on page 91
- get<Child> on page 92
- set<ObjectName>Id on page 95

Inherited Methods

The following methods are inherited from java.lang.Object.

- equals
- hashcode
- notify
- notifyAll
- toString
- wait()
- wait(long arg)
- wait(long timeout, int nanos)

<*ObjectName*>Bean

Description

<*ObjectName*>Bean is the user-defined object Bean class. You can instantiate this class to create a new instance of the parent object Bean class.

Syntax

```
new <ObjectName>Bean()
```

Parameters

None.

Returns

An instance of the parent object Bean.

Throws

ObjectException

count<*Child*>

Description

count<*Child*> returns the total number of child objects contained in a system object. The type of child object is specified by the method name (such as Phone or Address).

Syntax

```
public int count<Child>()
```

Parameters

None.

Returns

An integer indicating the number of child objects in a collection.

Throws

None.

countChildren

Description

countChildren returns a count of the total number of child objects belonging to a system object.

Syntax

```
public int countChildren()
```

Parameters.

None.

Returns

An integer representing the total number of child objects.

Throws

None.

countChildren

Description

countChildren returns a count of the total number of child objects of a specific type that belong to a system object.

Syntax

```
public int countChildren(String type)
```

Parameters.

Name	Type	Description
type	String	The type of child object to count, such as Phone or Address.

Returns

An integer representing the total number of child objects of the specified type.

Throws

None.

delete<*Child*>

Description

delete<*Child*> removes the specified child object from the system object. The type of child object to remove is specified by the name of the method, and the specific child object to remove is specified by its unique identification code assigned by the master index.

Syntax

```
public void delete<Child>(String <Child>Id)
```

Parameters

Name	Type	Description
<*Child*>Id	String	The unique identification code of the child object to delete.

Returns

None.

Throws

ObjectException

get<*Child*>

Description

get<*Child*> retrieves an array of child object Beans. Each getter method is named according to the child objects defined for the parent object. For example, if the parent object contains a child object named "Address", the getter method for this field is named "getAddress". A getter method is created for each child object in the parent object.

Syntax

```
public <Child>Bean[] get<Child>()
```

Parameters

None.

Returns

An array of Java Beans containing the type of child objects specified by the method name.

Throws

None.

get<*Child*>

Description

get<*Child*> retrieves a child object Bean based on its index in a list of child objects. Each getter method is named according to the child objects defined for the parent object. For example, if the parent object contains a child object named "Address", the getter method for this field is named "getAddress". A getter method is created for each child object in the parent object.

Syntax

```
public <Child>Bean get<Child>(int i)
```

Parameters

Name	Type	Description
i	int	The index of the child object to retrieve from a list of child objects.

Returns

A Java Bean containing the child object specified by the index value. The method name indicates the type of child object returned.

Throws

ObjectException

get<*Field*>

Description

get<*Field*> retrieves the value of the field specified in the method name. Each getter method is named according to the fields defined for the parent object. For example, if the parent object contains a field named "FirstName", the getter method for this field is named "getFirstName".

Syntax

```
public String get<Field>()
```

Note: *The syntax for the getter methods depends of the type of data specified for the field in the object structure. For example, the getter method for a date field would have the following syntax:* `public Date get<Field>`.

Parameters

None.

Returns

The value of the specified field. The type of data returned depends on the data type defined in the object definition.

Throws

ObjectException

get<*ObjectName*>Id

Description

get<*ObjectName*>Id retrieves the unique identification code (primary key) of the object, as assigned by the master index.

Syntax

```
public String get<ObjectName>Id()
```

Parameters

None.

Returns

A string containing the unique ID of the parent object.

Throws

ObjectException

set<*Child*>

Description

set<*Child*> adds a child object to the system object.

Syntax

```
public void set<Child>(int index, <Child>Bean child)
```

Parameters.

Name	Type	Description
index	integer	The index number for the new child object.
child	<*Child*>Bean	The Java Bean containing the child object to add.

Returns

None.

Throws

None.

set<*Child*>

Description

set<*Child*> adds an array of child objects of one type to the system object.

Syntax

```
public void set<Child>(<Child>Bean[] children)
```

Parameters.

Name	Type	Description
children	<*Child*>Bean[]	The array of child objects to add.

Returns

None.

Throws

None.

set<*Field*>

Description

set<*Field*> sets the value of the field specified in the method name. Each setter method is named according to the fields defined for the parent object. For example, if the parent object contains a field named "CompanyName", the setter method for this field is named "setCompanyName". A setter method is created for each field in the parent object, including any fields containing standardized or phonetic data.

Syntax

```
public void set<Field>(value)
```

Parameters

Name	Type	Description
value	varies	The value of the field specified by the method name. The type of value depends on the field being populated.

Returns

None.

Throws

ObjectException

set<*ObjectName*>Id

Description

set<*ObjectName*>Id sets the value of the **<*ObjectName*>Id** field in the parent object.

Note: *This ID is set internally by the master index. Do not set this field manually.*

Syntax

```
public void set<ObjectName>Id(String value)
```

Parameters

Name	Type	Description
value	String	The value of the **<*ObjectName*>Id** field.

Returns

None.

Throws

ObjectException

5.5.3. Child Beans

A Java Bean is created to represent each child object defined in the object definition of the master index. The methods in these classes provide the ability to create a child object Bean and to set or retrieve the field values for that object Bean.

The name of each child object Bean class is the same as the name of each child object, with the word "Bean" appended. For example, if a child object in your object structure is named "Address", the name of the corresponding child class is "AddressBean". The methods in this class include a constructor method for the child object Bean, and get and set methods for each field defined for the child object. Most methods have dynamic names based on the name of the child object and the fields defined for that object. In the following methods, <*Child*> indicates the name of a child object and <*Field*> indicates the name of a field defined for the parent object.

Definition

```
public final class <Child>Bean
```

Methods

Inherited Methods

The following methods are inherited from java.lang.Object.

- equals
- hashcode
- notify
- notifyAll
- toString
- wait()
- wait(long arg)
- wait(long timeout, int nanos)

<*Child*>Bean

Description

<*Child*>Bean is the user-defined object Bean class. You can instantiate this class to create a new instance of the child object Bean class.

Syntax

```
new <Child>Bean()
```

Parameters

None.

Returns

An instance of the child object Bean.

Throws

ObjectException

---

get<*Field*>

Description

get<*Field*> retrieves the value of the field specified in the method name. Each getter method is named according to the fields defined for the child object. For example, if the child object contains a field named "ZipCode", the getter method for this field is named "getZipCode".

Syntax

```
public String get<Field>()
```

Note: *The syntax for the getter methods depends of the type of data specified for the field in the object structure. For example, the getter method for a date field would have the following syntax:* `public Date get<Field>`.

Parameters

None.

Returns

The value of the specified field. The type of data returned depends on the data type defined in the object definition.

Throws

ObjectException

---

get<*Child*>Id

Description

get<*Child*>Id retrieves the unique identification code (primary key) of the object, as assigned by the master index.

Note: *This ID is set internally by the master index. Do not set this field manually.*

Syntax

```
public String get<Child>Id()
```

Parameters

None.

Returns

A string containing the unique ID of the child object.

Throws

ObjectException

---

set<*Field*>

Description

set<*Field*> sets the value of the field specified in the method name. Each setter method is named according to the fields defined for the child object. For example, if the child object contains a field named "Address", the setter method for this field is named "setAddress". A setter method is created for each field in the child object, including any fields containing standardized or phonetic data.

Syntax

```
public void set<Field>(value)
```

Parameters

Name	Type	Description
value	varies	The value of the field specified by the method name. The type of value depends on the data type of the field being populated.

Returns

None.

Throws

ObjectException

---

set<*Child*>Id

Description

set<*Child*>Id sets the value of the **<*Child*>Id** field in the child object.

Syntax

```
public void set<Child>Id(String value)
```

Parameters

Name	Type	Description
value	String	The value of the **<*Child*>Id** field.

Returns

None.

Throws

ObjectException

5.5.4. DestinationEO

This class represents an enterprise object involved in a merge. This is the enterprise object whose EUID was kept in the final merge result record. A DestinationEO object is used when unmerging two enterprise objects.

Definition

```
public class DestinationEO
```

Methods

- **getEnterprise<ObjectName>** on page 99

getEnterprise<*ObjectName*>

Description

getEnterprise<*ObjectName*> (where <*ObjectName*> is the name of the primary parent object) retrieves the surviving enterprise object from a merge transaction in order to allow the records to be unmerged.

Syntax

```
public Enterprise<ObjectName> getEnterprise<ObjectName>()
```

where <*ObjectName*> is the name of the primary parent object.

Parameters

None.

Returns

The surviving enterprise object from a merge transaction.

Throws

None.

5.5.5. Search<*ObjectName*>Result

This class represents the results of a search. A Search<*ObjectName*>Result object (where <*ObjectName*> is the name of the primary parent object) is returned as a result of a call to **"searchBlock"**, **"searchExact"**, or **"searchPhonetic"**.

Definition

```
public class Search<ObjectName>Result
```

Methods

- **getEnterprise<ObjectName>** on page 101

getEUID

Description

getEUID retrieves the EUID of a search result record.

Syntax

```
public String getEUID()
```

Parameters

None.

Returns

A string containing an EUID.

Throws

None.

---

getComparisonScore

Description

getComparisonScore retrieves the weight that indicates how closely a search result record matched the search criteria.

Syntax

```
public String getComparisonScore()
```

Parameters

None.

Returns

A string containing a comparison weight.

Throws

None.

---

get<*ObjectName*>

Description

get<*ObjectName*> retrieves an object bean for a search result record.

Syntax

```
public String get<ObjectName>Bean()
```

where <*ObjectName*> is the name of the primary parent object.

Parameters

None.

Returns

An object bean.

Throws

None.

5.5.6. SourceEO

This class represents an enterprise object involved in a merge. This is the enterprise object whose EUID was not kept in the final merge result record. A SourceEO object is used when unmerging two enterprise objects.

Definition

```
public class SourceEO
```

Methods

---

getEnterprise<*ObjectName*>

Description

getEnterprise<*ObjectName*> (where <*ObjectName*> is the name of the primary parent object) retrieves the non-surviving enterprise object from a merge transaction in order to allow the records to be unmerged.

Syntax

```
public Enterprise<ObjectName> getEnterprise<ObjectName>()
```

where <*ObjectName*> is the name of the primary parent object.

Parameters

None.

Returns

The non-surviving enterprise object from a merge transaction.

Throws

None.

5.5.7. System<*ObjectName*>PK

This class represents the primary keys in a system object, which include the processing code for the originating system and the local ID of the object in that system. The class is named for the primary object. For example, if the primary object is named "Person", this class is named "SystemPersonPK". If the primary object is named "Company", this class is named "SystemCompanyPK". The methods in these classes provide the ability to create an instance of the class and to retrieve the system processing code and the local ID.

Definition

```
public class System<ObjectName>PK
```

where <*ObjectName*> is the name of the primary parent object.

Methods

System<*ObjectName*>PK

Description

System<*ObjectName*>PK is the user-defined system primary key object. This object contains a system code and a local ID. Use this constructor method to create a new instance of a system primary key object.

Syntax

```
new System<ObjectName>PK()
```

where <*ObjectName*> is the name of the primary parent object.

Parameters

None.

Returns

An instance of the system primary key object.

Throws

None.

getLocalId

Description

getLocalID retrieves the local identifier from a system primary key object.

Syntax

```
public String getLocalId()
```

Parameters

None.

Returns

A string containing a local identifier.

Throws

None.

getSystemCode

Description

getSystemCode retrieves the system's processing code from a system primary key object.

Syntax

```
public String getSystemCode()
```

Parameters

None.

Returns

A string containing the processing code for a system.

Throws

None.

Glossary

alphanumeric search
A type of search that looks for records that precisely match the specified criteria. This type of search does not allow for misspellings or data entry errors, but does allow the use of wildcard characters.

assumed match
When the matching weight between two records is at or above a weight you specify, (depending on the configuration of matching parameters) the objects are an assumed match and are merged automatically (see "Automatic Merge").

automatic merge
When two records are assumed to be matches of one another (see "Assumed Match"), the system performs an automatic merge to join the records rather than flagging them as potential duplicates.

Blocking Query
The query used during matching to search the database for possible matches to a new or updated record. This query makes multiple passes against the database using different combinations of criteria. The criteria is defined in the Candidate Select file.

Candidate Select file
The eView configuration file that defines the queries you can perform from the Enterprise Data Manager (EDM) and the queries that are performed for matching.

candidate selection
The process of performing the blocking query for match processing. See *Blocking Query*.

candidate selection pool
The group of possible matching records that are returned by the blocking query. These records are weighed against the new or updated record to determine the probability of a match.

checksum
A value added to the end of an EUID for validation purposes. The checksum for each EUID is derived from a specific mathematical formula.

code list
A list of values in the sbyn_common_detail database table that is used to populate values in the drop-down lists of the EDM.

code list type
A category of code list values, such as states or country codes. These are defined in the sbyn_common_header database table.

duplicate threshold
The matching probability weight at or above which two records are considered to potentially represent the same entity.

EDM
See *Enterprise Data Manager*.

Enterprise Data Manager
Also known as the EDM, this is the web-based interface that allows monitoring and manual control of the master index database. The configuration of the EDM is stored in the Enterprise Data Manager file in the eView Project.

enterprise object
A complete object representing a specific entity, including the SBR and all associated system objects.

ePath
A definition of the location of a field in an eView object. Also known as the *element path*.

EUID
The enterprise-wide unique identification number assigned to each object profile in the master index. This number is used to cross-reference objects and to uniquely identify each object throughout your organization.

eView Manager Service
An eView component that provides an interface to all eView components and includes the primary functions of the master index. This component is configured by the Threshold file.

field IDs
An identifier for each field that is defined in the standardization engine and referenced from the Match Field file.

Field Validator
An eView component that specifies the Java classes containing field validation logic for incoming data. This component is configured by the Field Validation file.

Field Validation file
The eView configuration file that specifies any custom Java classes that perform field validations when data is processed.

local ID
A unique identification code assigned to an object in a specific local system. An object profile may have several local IDs in different systems.

master index
A database application that stores and cross-references information on specific objects in a business organization, regardless of the computer system from which the information originates.

Match Field File
An eView configuration file that defines normalization, parsing, phonetic encoding, and the match string for an instance of eView. The information in this file is dependent on the type of data being standardized and matched.

match pass
During matching several queries are performed in turn against the database to retrieve a set of possible matches to an incoming record. Each query execution is called a match pass.

match string
The data string that is sent to the match engine for probabilistic weighting. This string is defined by the match system object defined in the Match Field file.

match type
An indicator specified in the **MatchingConfig** section of the Match Field configuration file that tells the match engine which rules to use to match information.

matching probability weight
An indicator of how closely two records match one another. The weight is generated using matching algorithm logic, and is used to determine whether two records represent the same object.

Matching Service
An eView component that defines the matching process. This component is configured by the Match Field file.

matching threshold
The lowest matching probability weight at which two records can be considered a match of one another.

matching weight *or* match weight
See *matching probability weight*.

merge
To join two object profiles or system records that represent the same entity into one object profile.

merged profile
See *non-surviving profile*.

non-surviving profile
An object profile that is no longer active because it has been merged into another object profile. Also called a *merged profile*.

normalization
A component of the standardization process by which the value of a field is converted to a standard version, such as changing a nickname to a common name.

object
A component of an object profile, such as a company object, which contains all of the demographic data about a company, or an address object, which contains information about a specific address type for the company.

object profile
A set of information that describes characteristics of one enterprise object. A profile includes identification and other information about an object and contains a single best record and one or more system records.

parsing
A component of the standardization process by which a freeform text field is separated into its individual components, such as separating a street address field into house number, street name, and street type fields.

phonetic encoding
A standardization process by which the value of a field is converted to its phonetic version.

phonetic search
A search that returns phonetic variations of the entered search criteria, allowing room for misspellings and typographic errors.

potential duplicates
Two different enterprise objects that have a high probability of representing the same entity. The probability is determined using matching algorithm logic.

probabilistic weighting
A process during which two records are compared for similarities and differences, and a matching probability weight is assigned based on the fields in the match string. The higher the weight, the higher the likelihood that two records match.

probability weight
See *matching probability weight*.

Query Builder
An eView component that defines how queries are processed. The user-configured logic for this component is contained in the Candidate Select file.

SBR
See *single best record*.

single best record
Also known as the SBR, this is the best representation of an entity's information. The SBR is populated with information from all source systems based on the survivor

strategies defined for each field. It is a part of an entity's enterprise object and is recalculated each time a system record is updated.

standardization
The process of parsing, normalizing, or phonetically encoding data in an incoming or updated record. Also see *normalization*, *parsing*, and *phonetic encoding*.

survivor calculator
The logic that determines which fields from which source systems should be used to populate the SBR. This logic is a combination of Java classes and user-configured logic contained in the Best Record file.

survivorship
Refers to the logic that determines which fields are used to populate the SBR. The survivor calculator defines survivorship.

system
A computer application within your company where information is entered about the objects in the master index and that shares this information with the master index (such as a registration system). Also known as "source system" or "external system".

system object
A record received from a local system. The fields contained in system objects are used in combination to populate the SBR. The system objects for one entity are part of that entity's enterprise object.

tab
A heading on an application window that, when clicked, displays a different type of information. For example, click the EDM tab on the Define Enterprise Object window to display the EDM attributes.

Threshold file
An eView configuration file that specifies duplicate and match thresholds, EUID generator parameters, and which blocking query defined in the Candidate Select file to use for matching.

transaction history
A stored history of an enterprise object. This history displays changes made to the object's information as well as merges, unmerges, and so on.

Update Manager
The component of the master index that contains the Java classes and logic that determines how records are updated and how the SBR is populated. The user-configured logic for this component is contained in the Best Record file.

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