IBM Sterling Gentran:Server for Microsoft Windows

ODBC User Guide

Version 5.3

IBM

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This edition applies to the 5.3 Version of IBM® Sterling Gentran:Server® for Microsoft Windows and to all subsequent releases and modifications until otherwise indicated in new editions.

Before using this information and the product it supports, read the information in Notices on page N-1.

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About This Guide

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Overview

Introduction   IBM® Sterling Gentran:Server® for Microsoft Windows enables you to manage ODBC (Open Database Connectivity) documents along with traditional electronic commerce messages in the same manner. This allows you to maintain a homogenous processing and data management environment, regardless of how the incoming and outgoing data is formatted (ODBC, XML, proprietary message formats, etc.).

This manual is intended to explain how to use ODBC with Sterling Gentran:Server and assist you in performing various tasks in Sterling Gentran:Server. This manual uses a task-oriented approach, which is intended to answer any questions you may have about Sterling Gentran:Server with step-by-step instructions.

Note
This manual is *not* intended to explain or define ODBC.

Reference
For more information about ODBC, access the msdn.microsoft.com web site and follow the links to ODBC Programming Reference documentation.

What's in This Manual   The *IBM® Sterling Gentran:Server® for Microsoft Windows ODBC User Guide* is organized into chapters. A brief description of the chapter contents follows.

◗   *About This Guide* explains the content and organization of this guide. This chapter also describes how to get technical support.

◗   *Chapter 1, Introducing ODBC with Sterling Gentran:Server* provides you with an introduction to how ODBC is implemented with Sterling Gentran:Server.

◗   *Chapter 2, Using ODBC with Sterling Gentran:Server* describes tasks you need to complete to begin using ODBC in Sterling Gentran:Server, and how to work with ODBC map components.

◗   *Appendix A, Guidelines for Creating ODBC Maps* contains information on how to troubleshoot specific ODBC map problems.

Before you Begin

Assumptions	This list contains the items with which this manual assumes you are familiar.

◗ Sterling Gentran:Server

◗ Microsoft Windows

◗ ODBC

Prerequisites	This list describes the software prerequisites to use ODBC with Sterling Gentran:Server.

◗ You must have Sterling Gentran:Server version 5.3 currently installed.

◗ You must have an ODBC-compliant database installed.

Note
See the *IBM® Sterling Gentran:Server® for Microsoft Windows Getting Started Guide* for more information on the database version that are supported for use with Sterling Gentran:Server.

◗ You must have the latest version of the required ODBC drivers installed for your specific database.

Note
See the *IBM® Sterling Gentran:Server® for Microsoft Windows Getting Started Guide* for more information on the latest ODBC drivers and other software supported with Sterling Gentran:Server.

Getting Support

How to Get Help   IBM® Sterling Customer Center provides a wealth of online resources that are available around the clock to enrich your business experience with IBM® Sterling Gentran®. By using Sterling Customer Center, you gain access many self-support tools, including a Knowledge-Base, Documentation, Education, and Case Management. Access this site at: Sterling Customer Center. (http://customer.sterlingcommerce.com)

Once logged in, select Support Center from the top navigation menu, and then locate Sterling Gentran product specific support information from the left navigation menu.

Additionally, our Support Reference Guide outlines our support hours, contact information, and key information that will enhance your support experience with us. For detailed information about Customer Support, please refer to the Customer Support Reference Guide accessible from the login page. (http://customer.sterlingcommerce.com)

Reference

Refer to the *Sterling Gentran:Server Getting Started Guide* for information on how to access the Customer Support World Wide Web Site.

Sterling Gentran:Server ODBC Overview

Contents

Overview

Introduction   This chapter provides you with a introduction of how Sterling Gentran:Server uses ODBC, including the new features and functions of Sterling Gentran:Server.

Why use ODBC?   ODBC (Open Database Connectivity) provides you the ability to specify several data sources so that the system can query or update multiple databases during translation. Map creation directly from a database schema saves time and ensures that your map is synchronized with the latest version of your database.

ODBC with Sterling Gentran:Server Introduction

Overview

Sterling Gentran:Server enables you to:

◗ Specify data sources that the system uses to query for data or update data in multiple databases in a single translation session.

◗ Add data sources and then test the connection and edit the connection string.

◗ View a model of the database schema, including lists of tables and columns.

◗ Generate fields directly from your database schema.

◗ Check the consistency of your database.

Notes

◗ If you use the ODBC syntax on both sides of a map, each side uses a separate set of data sources. One side cannot refer to the data sources belonging to the other side of the map.

◗ ODBC features cannot be inserted in any other type of map.

◗ Any ODBC map that uses an ODBC Output Record and is translating against a Microsoft database (Access or MSSQL Server) must turn on (activate) the "Use ANSI Quoted Identifiers" option in the ODBC DSN configuration.

Timestamp information

Sterling Gentran:Server will place a timestamp of 00:00:00.000 on the end of any date which is written to the Sterling Gentran:Server database without a timestamp, regardless of the type of database management system you are using.

ODBC Map Objects

Introduction   Sterling Gentran:Server uses a set of icons to represent ODBC map objects.

Map object icons   This table describes the map object icons that Sterling Gentran:Server uses to visually represent the ODBC file:

Icon	Description
	The **ODBC File Format icon** contains the ODBC data sources that Sterling Gentran:Server uses during translation, including the root element. It is a looping structure that contains groups, SQL statements, cursor operations, and input and output records that repeat in sequence until either the group data ends or the maximum number of times that the loop is allowed to repeat is exhausted.
	A **group** is a looping structure that contains related groups, statement records, cursor operations, and input and output records that repeat in sequence until either the group data ends or the maximum number of times that the loop is allowed to repeat is exhausted.
	A **statement record** represents a unit of SQL. This includes a SQL query (which may or may not return a result set), a command (which does not return a result set), or a stored procedure invocation (which may or may not return a result set).
	A **cursor operation record** contains instructions for the translator on moving to a new record in a result set returned by a query. Each operation is associated with a single statement record that returns a result set. The cursor operation record is only allowed on the input side of the map.
	An **input record** contains a logical group of fields that are suitable to be mapped to the output format. The input record is only allowed on the input side of the map.
	An **output record** represents UPDATE, INSERT, or DELETE SQL statements, and contains fields. Output records may be created on both the input and output sides of a map.
	The **field** corresponds to a column in a database table and contains the attributes of that column. On the input side, the field receives data from a column of the current row of the open SQL query. On the output side, the field represents a column the system updates or inserts, or a key column. Additionally, you can create fields that are not related to a database table or result set of a query.

CHAPTER

2

Using ODBC with Sterling Gentran:Server

Getting Started

Overview

ODBC Process   This table contains the process that you follow to use ODBC with Sterling Gentran:Server.

Stage	Description
1	Install Sterling Gentran:Server on every machine in your system. **Reference** See the *IBM® Sterling Gentran:Server® for Microsoft Windows Installation Guide* for more information.
2	Create a map to translate ODBC documents. **Reference** See *How to Create an ODBC Map* on page 2 - 3 for more information.
3	If necessary, build the INPUT and OUTPUT sides of the map in the following sequence. a. Add data sources and test the connection. **Reference** See *How to Work with the ODBC File Format* on page 2 - 15 for more information. b. Use the ODBC field generator to generate database fields, if necessary. **Reference** See *How to Check Database Consistency* on page 2 - 51 for more information. c. If necessary, create map objects manually. **Reference** See *Working with ODBC Map Objects* on page 2 - 13 for more information. d. Verify the consistency of the database. **Reference** See *How to Check Database Consistency* on page 2 - 51 for more information.

How to Create an ODBC Map

Introduction   The New Map Wizard enables you to quickly and easily select the format of the input and output files and create a map.

Note
If you use the ODBC syntax for both sides of the map, each side uses a separate set of data sources and one side cannot refer to the data sources that belong to the other side of the map.

Procedure   Use this procedure to create an ODBC map.

Step	Action
1	From the Start menu select **Programs\Gentran Server\Application Integration**. **System response** The system displays the Application Integration subsystem.
2	From the Application Integration File menu, select **New**. **System response** The system displays the New Map Wizard.

(Contd) Step	Action
3	Answer the following questions and then click **Next**. ◗ *What kind of map are you creating?* The following table defines the selections:

Part	Function
Import	Used for outbound maps.
Export	Used for inbound maps.
Interchange break	Used in advanced mapping to separate interchanges.
Functional Acknowledgement Inbound	Used in advanced mapping to reconcile functional acknowledgements.
Functional Acknowledgement Outbound	Used in advanced mapping to generate functional acknowledgements.
System Import Header	Used to determine which trading relationship (established in Partner Editor) corresponds to each document in the application file, so the system knows which import translation object to use to process the document.
Turnaround	Used for EDI to EDI maps.
Transaction build	Used in advanced mapping to build transaction envelopes.
Transaction break	Used in advanced mapping to separate documents.
Functional group build	Used in advanced mapping to build functional group envelopes.
Functional group break	Used in advanced mapping to separate functional groups.
Interchange build	Used in advanced mapping to build interchange envelopes.

(Contd) Step	Action
3 (contd)	◗ *What is the name of the map?* Type the unique name of the map. The system adds the .MAP extension. ◗ *What is your name?* Type your name if it differs from the user name prompted by the system. **System response** The system displays the New Map Wizard - Input Format dialog box. **Note** You need to complete the format of the Input side of the map. This is the format of the data that is translated by the Sterling Gentran:Server system.
4	For the input side of the map: Do you want to create a new data format using a syntax that you define? ◗ If *yes*, select one of the following input format options, click **Next**, and continue with Step 5: **Delimited EDI** (Electronic Data Interchange file) **Positional** (application files) **XML** (Extensible Markup Language) **ODBC** (Open Database Connectivity) **CII** (Japanese standard) **CII Positional** (for CII Build/Break maps) **System response** The system displays the New Map Wizard - Output Format dialog box. ◗ If *no* (you want to load the data format from a saved definition), select the Load the data format from a saved definition option, and type the path and file name of the saved definition (or click **Browse** to display the Open File Definition dialog box). Continue with Step 6.
5	Follow the steps for New Map Wizard - Output Format dialog box and then continue with Step 6.
6	Did you choose to load the data format from a saved definition and click **Browse** to display the Open File Definition dialog box? ◗ If *yes*, type the file name and click **Open** to load the selected file format definition, and then continue with Step 7. **Note** You can now select either a .DDF or .IFD file. ◗ If *no*, continue with Step 7. **Note** If the DDF is invalid, the system displays a message box explaining the problem and terminates the import.

(Contd) Step	Action
7	For the output side of the map: Do you want to create a new data format using a syntax that you define? ◗ If *yes*, select one of the following output format options, click **Next**, and continue with Step 8: **Delimited EDI** (Electronic Data Interchange file) **Positional** (application files) **XML** (Extensible Markup Language) **ODBC** (Open Database Connectivity) **CII** (Japanese standard) **CII Positional** (for CII Build/Break maps) ◗ If *no* (you want to load the data format from a saved definition), select the Load the data format from a saved definition option and type the path and file name of the saved definition (or click **Browse** to display the Open File Definition dialog box). Continue with Step 8.
8	Did you choose to load the data format from a saved definition and click **Browse** to display the Open File Definition dialog box? ◗ If *yes*, type the file name and click **Open** to load the selected file format definition, and then continue with Step 9. **Note** You can now select either a .DDF or .IFD file. ◗ If *no*, continue with Step 9.
9	Click **Finish** to begin editing the map (this may take a few seconds). **System response** The system displays the new map in the Application Integration Window. **Note** After you finish creating and saving a new map, you need to define the Input and Output sides of the map.

Considerations for ODBC Mapping

Import processing

For outbound processing, you need a way to determine which records in your database tables were processed. Therefore, you need to be able to mark records so that when you process the map you can select only the unprocessed records in your tables.

To mark records as processed or not processed, you need to designate a column in your database to contain a processing flag. This can be a process column that you insert into your database or you may select an unused column to perform this function. You need to incorporate this column into the SQL statement record in your map. Also, you need to update this column from the map to indicate that a data record was processed.

Recommendation

Prior to adding a process column to your database or changing the function of an existing column, we recommend that you copy your data to separate work tables in your database, to ensure that your testing will not overwrite existing data.

Export processing

Sterling Gentran:Server enables you to export data directly to a database. To export a document to an ODBC compliant database (i.e., EDI to ODBC), you must register an export translation object for that transaction set, and you must set up that export translation object and an export file name in the inbound relationship record for that partner.

Reference

◗ See "How to Export a Document" in the *IBM® Sterling Gentran:Server® for Microsoft Windows User Guide* for more information on exporting a document.

◗ See "How To Register a Translation Object" in the *IBM® Sterling Gentran:Server® for Microsoft Windows User Guide* for more information on registering translation objects.

◗ See "How to Create a New Inbound Relationship" in the *IBM® Sterling Gentran:Server® for Microsoft Windows User Guide* for more information on setting up the inbound translation object.

Additional Steps for Import Maps

Introduction   We recommend you create an ODBC system import map regardless of what the input format or output format of the map is. This applies whether you are importing multiple partners or not.
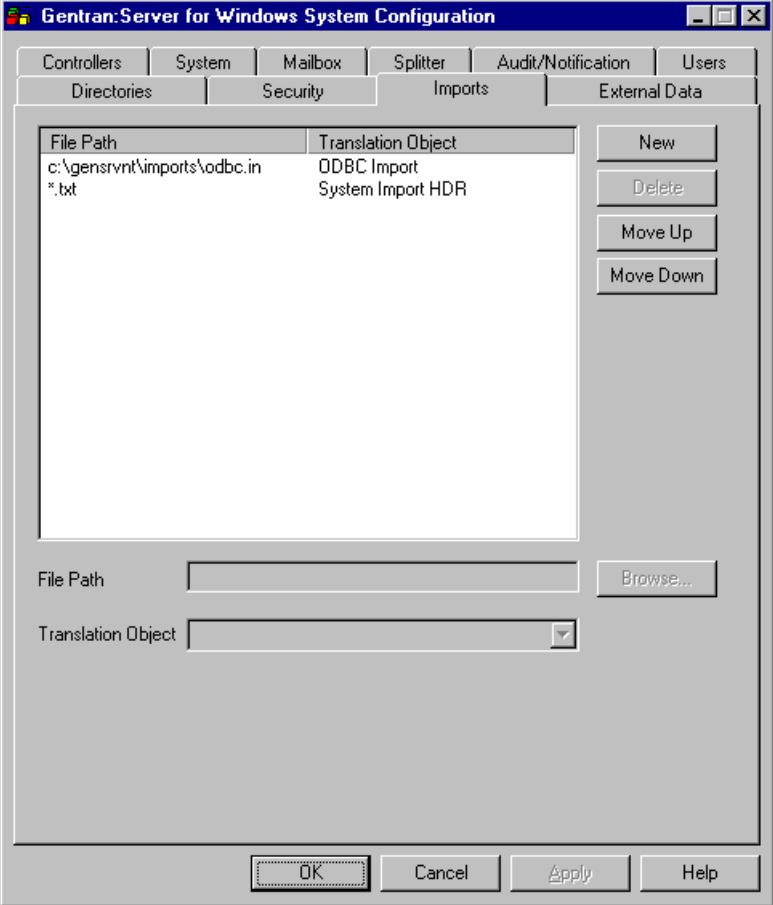
Reference
See "How to Import a Document" in the *IBM® Sterling Gentran:Server® for Microsoft Windows User Guide* for more information on importing a document.

Process   This table describes an example of the process for creating an ODBC import map for use with many partners in Sterling Gentran:Server.

Stage	Description
1	Create an import map (e.g., ODBC.MAP, with a description of "ODBC Import"). **Reference** See *How to Create an ODBC Map* on page 2 - 3 for more information.
2	On the input side of the map, define a 3-field alternate key to look up partner information (as if you were creating a system import map). **Note** This import map will contain the functionality of both an import map and a system import map. **Reference** See "How to Define the Alternate Key" in the *IBM® Sterling Gentran:Server® for Microsoft Windows Application Integration User Guide* for more information.
3	Create an empty file (e.g., ODBC.IN). **Note** You can use a text editor to create the dummy file. The dummy file is used to trigger the import process.

(Contd) Stage	Description
4	On the System Configuration program Imports tab, associate the compiled import translation object with the dummy file. **Note** This instructs the system to use the import map instead of a system import map when the dummy file is imported into the system. When the import is performed, the system runs all the ODBC translation specified by the map. **Example** This diagram illustrates how the System Configuration Imports tab would look based on the examples described above. **Reference** See "How to Define a New Import Specification" in the *IBM® Sterling Gentran:Server® for Microsoft Windows Administration Guide* for more information.

How to Generate Database Fields

Introduction

The Generate Fields function provides you with a wizard that enables you to quickly and easily generate fields for an input or output record. The functionality differs slightly depending on whether the record is input or output.

Note
Prior to using this function, you should test your SQL queries.

Reference
See *How to Work with the ODBC File Format* on page 2 - 15 for more information on testing queries.

Generating input record database fields

Use this procedure to generate input record database fields.

Step	Action
1	Right-click an input record and select **Generate Fields** from the shortcut menu. **System response** The system displays the Odbc Field Generator Wizard: Select Query(s) dialog box.
2	From the Queries list, select the defined queries and click **Next**. **Note** The system only displays the queries for which you generated a result set. **System response** The system displays the Odbc Field Generator Wizard: Select Column(s) dialog box.
3	From the Columns list, select the desired result columns and click **Finish**. **Note** Click **Choose All** to select all the columns. Click **Clear** to deselect all columns. **System response** The system adds the specified result columns to the record and automatically generates all the validation settings.

Generating output record database fields

Use this procedure to generate output record database fields.

Step	Action
1	Right-click an output record and select **Generate Fields** from the shortcut menu. **System response** The system displays the Odbc Field Generator Wizard: Select Table(s) dialog box.
2	Is the output record already associated with a data source? ◗ If *yes*, continue with Step 3. ◗ If *no*, from the Data Source list, select the desired data source and continue with Step 3.
3	Is the output record already associated with a table? ◗ If *yes*, continue with Step 4. ◗ If *no*, from the Table list, select the desired database table and continue with Step 4.
4	Select the table operation and click **Next**. **Note** Valid selections are as follows. ◗ Insert ◗ Update ◗ Delete **System response** The system displays the Odbc Field Generator Wizard: Select Column(s) dialog box.
5	From the Columns list, select the desired result columns and click **Finish**. **Note** Click **Choose All** to select all the columns. Click **Clear** to deselect all columns. **System response** The system adds the specified result columns to the record and automatically generates all the validation settings.

How to Move from Test to Production (ODBC DSN)

Introduction

When you move your system from test to production, if your ODBC data source name (DSN) is different on the test and production controllers then you need to change the ODBC DSN for the maps you are using in production.

Changing an ODBC DSN when migrating to production

Use this procedure to change the ODBC data source name when you move from test to production.

Step	Action
1	In each map that you are moving from test to production, right-click the ODBC File icon and select **Properties** from the shortcut menu. **System response** The system displays the ODBC File Properties dialog box (Name tab displayed by default).
2	Select the **Data Sources** tab to access the data source options.
3	In the DSN box (ODBC Connection Parameters section on the right side of the dialog box), type the ODBC data source name for your production database. **System response** The system changes the DSN for this map.
4	Click **OK**. **System response** The system closes the ODBC File Properties dialog box.

Working with ODBC Map Objects

Overview: How to Create Map Objects

Introduction   The map objects that you can create depends on which map object is currently selected (has focus in the map). This table describes the available options (N/A indicates that no map object can be created when the specified object is selected).

IF the currently-selected object is a...	THEN you can create...
ODBC File Format	◗ Group ◗ Statement Record ◗ Cursor Operation Record (input only) ◗ Input Record (input only) ◗ Output Record
Group	◗ Group ◗ Statement Record ◗ Cursor Operation Record (input only) ◗ Input Record (input only) ◗ Output Record
Statement Record (Query/Command)	N/A
Cursor Operation Record	N/A
Input Record	Field
Output Record	Field
Field	N/A

Create Sub vs. Insert functions

You use two different Sterling Gentran:Server functions to create the necessary map objects—*Create Sub* and *Insert*. This table explains when you use each of these functions.

IF you want to create a map object...	THEN right-click the map object to access the shortcut menu and select...
at the same level (equal) as the selected map object,	◗ **Insert** and then ◗ select the appropriate option.
that is subordinate to the selected map object (a child object),	◗ **Create Sub** and then ◗ select the appropriate option.

How to Work with the ODBC File Format

Introduction   The ODBC File Format object represents the ODBC data sources that Sterling Gentran:Server is mapping, including the root element. This object is created automatically by Sterling Gentran:Server and enables you to define ODBC data sources, connection parameters, and extended rules.

Note
The ODBC File Format object cannot be referenced by standard rules or links.

Important
Any ODBC map that uses an ODBC Output Record and is translating against a Microsoft database (Access or MSSQL Server) must turn on (activate) the "Use ANSI Quoted Identifiers" option in the ODBC DSN configuration.

ODBC File Properties dialog box   This diagram illustrates the ODBC File Properties dialog box (Name tab).
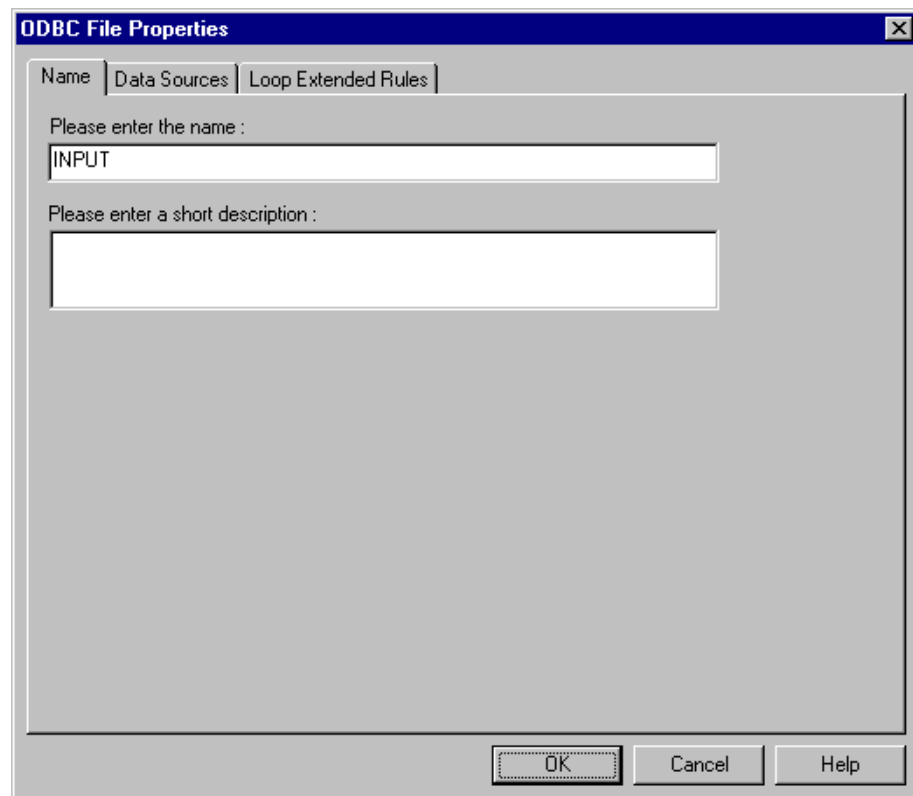
ODBC File Format Properties parts and functions

This table lists the parts of the ODBC File Properties dialog box and their functions.

Part	Function
Name tab	
Name	Identifies the ODBC file.
Description	Describes the ODBC file. This box is used to differentiate the ODBC file from similar files.
Data Sources tab	
Currently Defined Data Sources	Displays the currently defined data sources.
DSN	Specifies the data source name, as identified by ODBC. **Note** Each DSN must be unique.
UID	Specifies the user ID, if necessary. **Note** Complete if you use a DSN that requires a connection.
PWD	Specifies the password, if necessary. **Note** Complete if you use a DSN that requires a connection.
DATABASE	Specifies the database name.
User supplied name for this data source	Indicates how you want to refer to the data source name. **Note** Complete if this name is different from the ODBC DSN. This is the DSN, as known by the map which the system propagates to all applicable Properties dialog boxes.
Connect to data source to build table schema and test SQL statements	Indicates that the system connects to this data source and uses that information to build the database table schema and test the SQL queries (thus generating a result set).
Use Transaction	Indicates that the translator performs all the operations on the data source in a transaction. **Note** If there is a database error during translation, the system rolls the database back to a previous state that does not contain errors.

(Contd) Part	Function
ODBC Data Sources	Accesses the Select Data Source dialog box, which enables you to create a data source or select one that was previously created.
Clear Selected Data Source	Clears the parameter boxes to allow you to add another data source.
Test Connection	Tests the connection of the selected ODBC data source.
Update/ Add	Rebuilds the database schema for the selected data source if you specified Test Connection. After the system rebuilds the schema, it automatically checks all the objects in the file format that depend on that schema. If possible, the system also modifies the data-type and validation information for those objects to match the new schema. Then, the system performs a consistency check and fixes those inconsistencies. **Note** If you do not select a data source or there are no data sources in the list, the system displays **Update** as **Add**, which allows you to add a data source you previously created to the Currently Defined Data Sources list. **Reference** See *How to Check Database Consistency* on page 2 - 51 for more information on database consistency checking.
Remove	Deletes the selected data source from the list, which invalidates (clears) all fields or records that reference it. **Note** You are prompted to remove the selected data source (from the list, not from the machine); click **OK** to do so.
Loop Extended Rules tab	
On Begin	Specifies that the extended rule is executed before the system processes the map object.
On End	Specifies that the extended rule is executed after the system concludes processing the map object.
Full Screen	Maximizes the dialog box.
Compile	Compiles the extended rule. Any warnings or errors are displayed in the Errors list. **Note** This function gives you immediate feedback about the accuracy of your rule. The rule is compiled when you compile the entire translation object.

(Contd) Part	Function
Extended rule	Defines the extended rule.
Errors	Displays any errors generated when you clicked **Compile** to compile the extended rule.

Modifying ODBC file format properties

Use this procedure to modify the properties of an ODBC file.

Step	Action
1	Right-click the ODBC File icon and select **Properties** from the shortcut menu. **System response** The system displays the ODBC File Properties dialog box (Name tab displayed by default).
2	Do you want to create an ODBC data source? ◗ If *yes*, select the Data Sources tab to access data source options. **Reference** See *Creating an ODBC data source* on page 2 - 19 for more information. ◗ If *no*, continue with Step 3.
3	Do you want to specify an extended rule for the ODBC file? ◗ If *yes*, select the Loop Extended Rules tab, define the rule, and continue with Step 4. **Reference** See the *IBM® Sterling Gentran:Server® for Microsoft Windows Application Integration User Guide* for more information on extended rules. ◗ If *no*, continue with Step 4.
4	Click **OK**. **System response** The system saves your changes and closes the ODBC File Properties dialog box.

Creating an ODBC data source

Use this procedure to create an ODBC data source.

Step	Action
1	Right-click the ODBC File icon and select **Properties** from the shortcut menu. **System response** The system displays the ODBC File Properties dialog box (Name tab displayed by default).
2	Select the **Data Sources** tab to access the data source options.
3	Click **ODBC Data Sources**. **System response** The system displays the Select Data Source dialog box.
4	Do you want to select a machine data source? ◗ If *yes*, select the **Machine Data Source** tab and continue with the next step. ◗ If *no*, continue with Step 7. **Note** Sterling Gentran:Server does not support File Data Sources.
5	On the Machine Data Source tab, select the machine data source you want to use and click **OK**. **System response** The system exits the Select Data Source dialog box and displays a Login dialog box.
6	Verify the login information and click **OK**. **System response** The system returns you to the ODBC File Properties dialog box.
7	On the ODBC File Properties Data Sources tab, complete the following and continue with Step 8: ◗ DSN (required), ◗ DATABASE (optional), ◗ Password (optional), ◗ User defined name for this Data Source (optional), and ◗ click **Add**. **System response** The system adds the data source to the list and prompts you that it is building the schema for that data source.

(Contd) Step	Action
8	Do you want to test the connection to a data source? ◗ If *yes*, select the data source and click **Test Connection**, and continue with Step 9. **Note** If you click **Test Connection**, the system attempts to rebuild the schema whenever you perform an UPDATE or check database consistency, and it tests all queries running against that data source. **System response** The system tests the connection of the selected data source and prompts you with a dialog box containing the results of the test. Click **OK** to exit the dialog box. ◗ If no, continue with Step 9.
9	Click **OK**. **System response** The system closes the ODBC File Properties dialog box.

How to Work with Groups

Introduction   A group contains related groups, SQL statements, cursor operations, and input and output records that repeat in sequence until either the group data ends or the maximum number of times that the loop is allowed to repeat is exhausted.

Note
The group object cannot be referenced by standard rules or links.

Group dialog box   This diagram illustrates the Group Properties dialog box (Name tab).
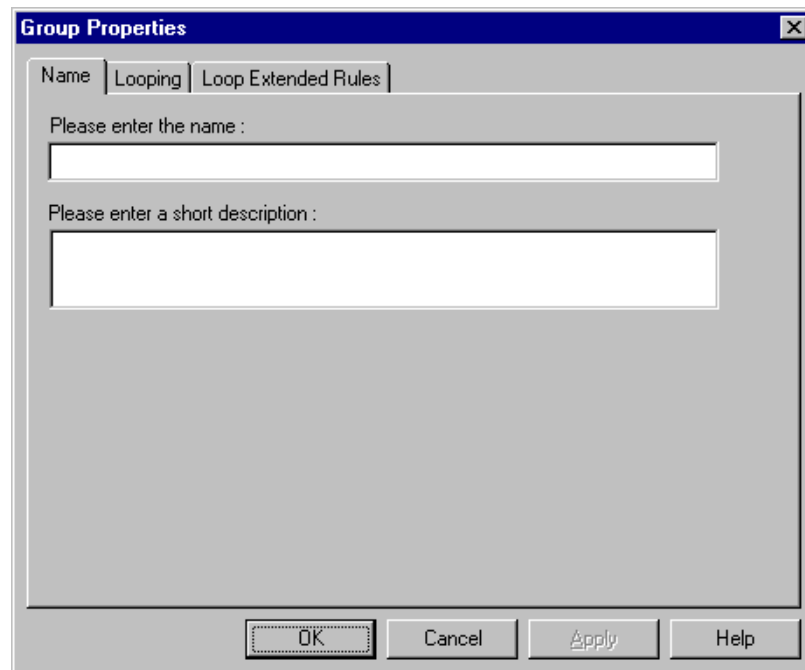
Parts and functions   This table lists the parts of the Group Properties dialog box and their functions.

Part	Function
Name tab	
Name	Identifies the group name. **Note** Do not use spaces or dashes (-) in the group name. You can use the underscore (_) to separate words.
Description	Describes the group to differentiate it from other similar groups.

(Contd) Part	Function
Looping tab	
Minimum Usage	Specifies the minimum number of times the loop must be repeated. For a conditional loop, the minimum usage should always be "0" (zero).
Maximum Usage	Specifies the maximum number of times the loop can be repeated.
Promote records to parent	Indicates that when the group is compiled, the subordinate records and groups will be extracted from the loop and located in the parent group. This function is valid for single iteration subgroups only.
Loop Extended Rules tab	
On Begin	Specifies that the extended rule is executed before the system processes the map object.
On End	Specifies that the extended rule is executed after the system concludes processing the map object.
Full Screen	Maximizes the dialog box.
Compile	Compiles the extended rule. Any warnings or errors are displayed in the Errors list.
Extended rule	Defines the extended rule.
Errors	Displays any errors generated when you clicked **Compile** to compile the extended rule.

Creating a group   Use this procedure to create a group.

Step	Action
1	Right-click a map object and select either **Create Sub** or **Insert** from the shortcut menu. **Reference** See *Overview: How to Create Map Objects* on page 2 - 13 for more information on the Create Sub and Insert functions.
2	From the shortcut menu, select **Group**. **System response** The system displays the Group Properties dialog box.

(Contd) Step	Action
3	On the Name tab, specify the following: ◗ unique group name and ◗ description (if applicable).
4	Select the **Looping** tab to access looping options.
5	In the Minimum Usage box, type the minimum number of times the loop must be repeated. **Note** For a conditional loop, the minimum usage should always be "0" (zero). For a mandatory loop, the minimum usage should be "1" or greater.
6	In the Maximum Usage box, type the maximum number of times the loop can be repeated.
7	Is this a single iteration group? ◗ If *yes*, select Promote records to parent if you want to specify that the subordinate records and groups should be extracted and located in the parent group when the group is compiled. ◗ If *no*, continue with the next step.
8	Do you want to specify an extended rule for this group? ◗ If *yes*, select the **Loop Extended Rules** tab. **Reference** See the *IBM® Sterling Gentran:Server® for Microsoft Windows Application Integration User Guide* for more information on extended rules. ◗ If *no*, continue with the next step.
9	Click **OK**. **System response** The system saves the element and closes the Group Properties dialog box.

How to Work with Statement Records

Introduction

The statement record represents a SQL query (which returns data and can be used later in the map) or command. Each statement record is associated with a single data source. If the schema for that data source already exists, the system displays all the tables for your reference.

To use a statement record, you first select a data source. If a schema was generated for the selected data source, the system displays a list containing all the tables and views.

Then, you can type a SQL statement, test its validity, and generate a result set of columns returned from the query or stored procedure. This result set is used in the ODBC field generator for input records. Then you can connect to the data source and test it.
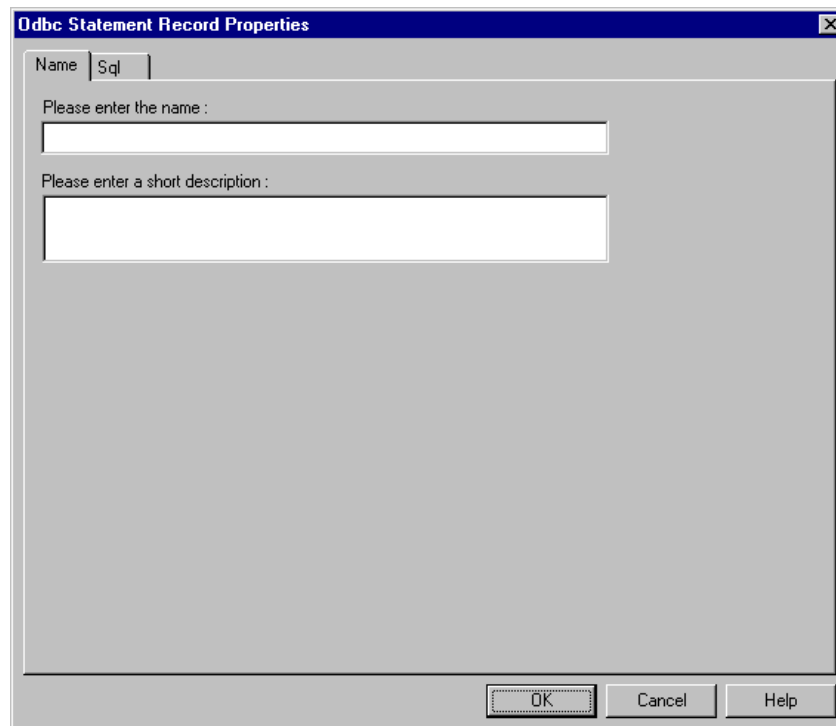
If you specify the name of a stored procedure instead of a SQL statement, you must select the stored procedure option.

Note
The statement record cannot be referenced by standard rules, extended rules, or links.

ODBC Statement Record Properties dialog box

This diagram illustrates the ODBC Statement Record Properties dialog box (Name tab).

Parts and functions

This table lists the parts of the ODBC Statement Record Properties dialog box and their functions.

Part	Function
Name tab	
Name	Defines the statement record name.
Description	Describes the statement record.
Sql tab	
Data Source	Contains a list of all the data sources associated with this side of the map.
SQL Statement	Enables you to type SQL. **Note** This box also accepts C-style comments. **Example** `/*This is a comment*/`
Full Screen	Maximizes the SQL statement list.
Returns a Result Set	Indicates that the system should generate and return a result set for the specified SQL.
SQL statement is a stored procedure	Indicates that the entry in the SQL Statement list is a stored procedure instead of a query or command.
Test SQL	Tests the statement in the SQL Statement list.
Tables	Contains a list of database tables and views associated with the selected data source.
Column Info	Contains the column information from the selected database table. **Note** The data type displayed is the Sterling Gentran:Server data type of the column, not the actual database data type.

Creating a statement record

Use this procedure to create a statement record.

Step	Action
1	Right-click a map object and select either **Create Sub** or **Insert** from the shortcut menu. **Reference** See *Overview: How to Create Map Objects* on page 2 - 13 for more information on the Create Sub and Insert functions.
2	From the shortcut menu, select **Query/Command**. **System response** The system displays the ODBC Statement Record Properties dialog box.
3	On the Name tab, specify the following: ◗ unique statement record name and ◗ description (if applicable).
4	Select the **Sql** tab to access the statement options.
5	From the Data Source list, select the data source you want to use for this statement.
6	In the SQL Statement list, type the SQL statement or stored procedure.
7	Do you want the system to return a result set when you test the statement? ◗ If *yes*, select the Returns a Result Set option and continue with Step 9. ◗ If *no*, continue with Step 10.
8	Is the statement a stored procedure? ◗ If *yes*, select the SQL statement is Stored Procedure option and continue with the next step. ◗ If *no*, continue with the next step.
9	Click **Test SQL**. **Note** This function is only valid if you selected **Test Connection** on the ODBC File Format Properties dialog box (Data Sources tab). **Reference** See *How to Work with the ODBC File Format* on page 2 - 15 for more information. **System response** The system tests the statement and, if specified, returns a result set.

(Contd) Step	Action
10	Click **OK**. **System response** The system saves the statement record and closes the ODBC Statement Record Properties dialog box.

How to Work with Cursor Operation Records

Introduction

The cursor operation record contains instructions for the translator on moving through the result set to a new record. Each cursor operation record is associated with a single ODBC statement record.

Note
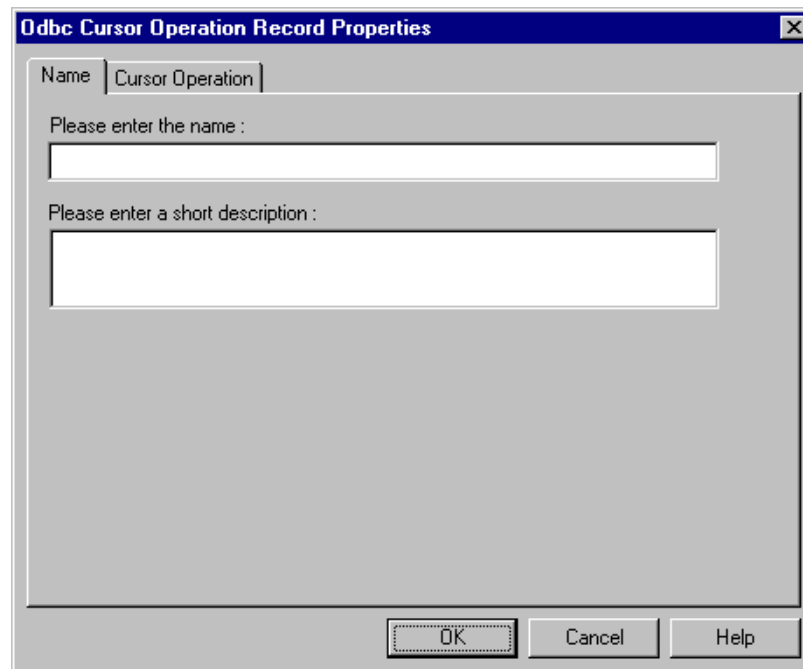Cursor operation records are only allowed on the input side of a map.

The system performs cursor operations when they are encountered by the translator as it processes the map.

Note
The cursor operation record cannot be referenced by standard rules, extended rules, or links.

ODBC Cursor Operation Record Properties dialog box

This diagram illustrates the ODBC Cursor Operation Record Properties dialog box (Name tab).

Parts and functions

This table lists the parts of the ODBC Cursor Operation Record Properties dialog box and their functions.

Part	Function
Name tab	
Name	Defines the cursor operation record name.
Description	Describes the cursor operation record.
Cursor Operation tab	
Query Record Association	Contains the statement record of type "query" with which you associate the cursor operation. **Note** The statement record must return a result set.
Cursor Operation	Contains the operation that the translator performs on the result set. Valid selections are as follows. ◗ No Op - Performs no operation and enables you to test the effect of removing a cursor operation without actually removing the object. ◗ Move First - Move the cursor to the First row of the result set returned by the Associated Query selected. ◗ Move Next - Move the cursor to the Next row of the result set returned by the Associated Query selected. ◗ Move Last - Move the cursor to the Last row of the result set returned by the Associated Query selected. ◗ Move Previous - Move the cursor to the previous row of the result set returned by the Associated Query selected. ◗ Close - Close the cursor opened for the Associated Query selected.

Creating a cursor operation record

Use this procedure to create a cursor operation record.

Step	Action
1	Right-click a map object and select either **Create Sub** or **Insert** from the shortcut menu. **Reference** See *Overview: How to Create Map Objects* on page 2 - 13 for more information on the Create Sub and Insert functions.

(Contd) Step	Action
2	From the shortcut menu, select **Cursor Operation**. **System response** The system displays the ODBC Cursor Operation Record Properties dialog box.
3	On the Name tab, specify the following: ◗ unique cursor operation record name and ◗ description (if applicable).
4	Select the **Cursor Operation** tab to access the operation options.
5	From the Query Record Association list, select the query that the system uses to obtain a result set that is then moved to the record.
6	From the Cursor Operation list, select the cursor operation.
7	Click **OK**. **System response** The system saves the cursor operation record and closes the ODBC Cursor Operation Record Properties dialog box.

How to Work with Input Records

Introduction

An input record contains a logical group of fields that are suitable to be mapped to the output format.

Example

The input side of the map is ODBC and the output file format is Positional, and you need to generate a record using information from two separate queries. You can create an ODBC input record that contains fields which obtain data from the appropriate columns of both queries. Then you can link those fields directly to the corresponding positional fields.

Note

The input record cannot be referenced by standard rules or links.

Key field functionality

Input records support the standard Sterling Gentran:Server key field constant and code list functionality. Additionally, the system provides you with the ability to match against fields that appear earlier in the map. If you choose to match against an earlier mapped field, you are allowed up to three key fields.

This additional key field functionality is very useful when you are mapping from a join of master-detail records to an equivalent hierarchy, because this allows the translator to detect when the keys in the detail level no longer match the keys in the master level.

Auto get next cursor operation

If the fields of an input record all belong to the same query, you can specify that the system automatically perform an auto get next cursor operation as the input record loops.

Note

You specify the "Automatically get next row from Statement record" option on the Looping tab of the ODBC Input Record Properties dialog box.

ODBC Input Record Properties dialog box

This diagram illustrates the ODBC Input Record Properties dialog box (Name tab).
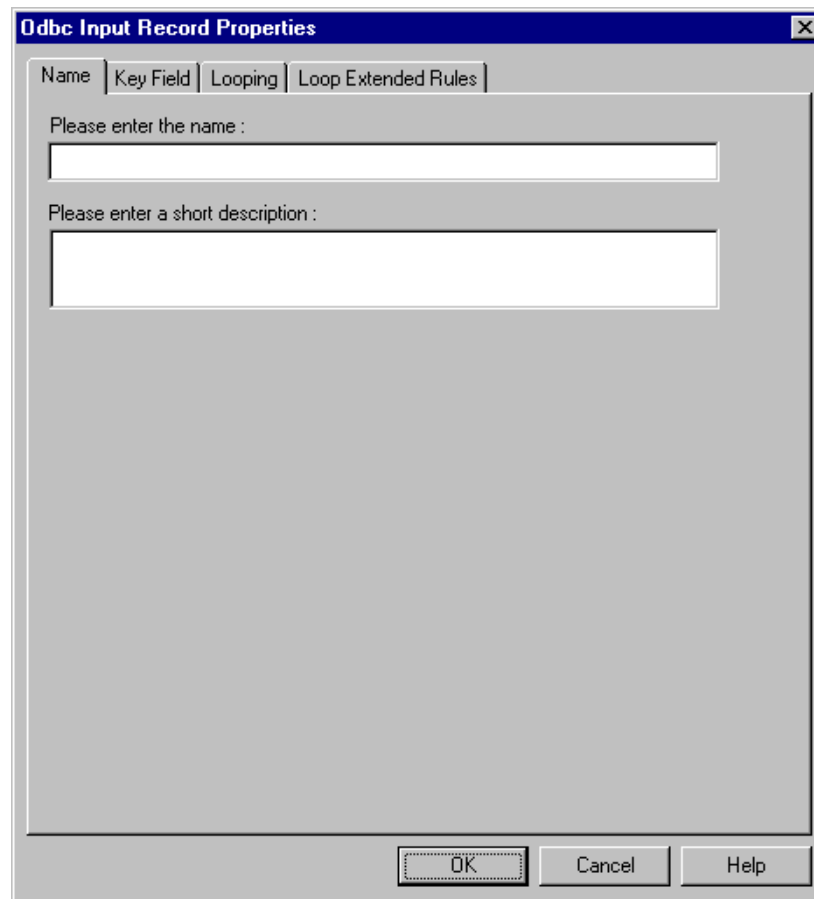
Parts and functions

This table lists the parts of the ODBC Input Record Properties dialog box and their functions.

Part	Function
Name tab	
Name	Defines the name of the input record. **Note** Do not use spaces or dashes (-) for the name. You can use the underscore (_) to separate words.
Description	Describes the input record to differentiate it from other similar records.

(Contd) Part	Function
Key Field tab	
None Use constant Use codelist Use Field	Indicates the type of information that the system uses to match this record. **Note** Selecting Use constant or Use codelist activates the middle section of the dialog box. Selecting Use Field activates the bottom section of the dialog box.
Match record when key does not match	Indicates that the system should (if selected) match the record if the Key Field does not have the value specified. **Note** This gives you the ability to further recognize an ambiguous record definition.
Key Field	Contains the field that the system verifies to check if it does or does not (depending on which you specify) match the constant, code list, or field value or values.
Constants **Edit**	Contains a list of defined constants. The system will match the selected constant against the key field. To add or change a constant, click **Edit** to access the Translation Object Constants dialog.
Code Lists **Edit**	Contains a list of defined code lists. The system will match the selected code list against the key field. To add or change a code list, click **Edit** to access the Code Lists dialog.
Key Field 1	Specifies the first key field. **Note** Contains all the active fields from this record.
Use Key Field 1	Specifies that the system should use this value. **Note** Contains all the active fields from the preceding records (not including this record).
Key Field 2	Specifies the second key field, if necessary. **Note** Contains all the active fields from this record.

(Contd) Part	Function
Use Key Field 2	Specifies that the system should use this value. **Note** Contains all the active fields from the preceding records (not including this record).
Key Field 3	Specifies the third key field, if necessary. **Note** Contains all the active fields from this record.
Use Key Field 3	Specifies that the system should use this value. **Note** Contains all the active fields from the preceding records (not including this record).
Looping tab	
Min Usage	Specifies the minimum amount of times the loop must repeat. **Note** If the Min Usage box contains a "0" (zero), the record is "conditional." If the Min Usage box contains a "1" or greater, the record is "mandatory".
Max Usage	Specifies the maximum amount of times the loop can repeat.
Normal Loop Start Loop End	Indicates the type of loop. Valid values are as follows. ◗ Normal (This record is in the loop but is not the beginning or ending record) ◗ Loop Start (This record marks the beginning of the loop) ◗ Loop End (This record marks the end of the loop)
Automatically get next row from Statement record	Indicates that the system performs a movement operation as the input record loops.
Loop Extended Rules tab (only if record repeats)	
On Begin	Specifies that the extended rule is executed before the system processes the record.
On End	Specifies that the extended rule is executed after the system concludes processing the record.
Full Screen	Maximizes the dialog box.

(Contd) Part	Function
Compile	Compiles the extended rule. Any warnings or errors are displayed in the Errors list. **Note** This function gives you immediate feedback about the accuracy of your rule. The rule is compiled when you compile the entire translation object.
Extended rule	Defines the extended rule.
Errors	Displays any errors generated when you clicked **Compile** to compile the extended rule.

Creating an input record

Use this procedure to create an input record.

Step	Action
1	Right-click a map object and select either **Create Sub** or **Insert** from the shortcut menu. **Reference** See *Overview: How to Create Map Objects* on page 2 - 13 for more information on the Create Sub and Insert functions.
2	From the shortcut menu, select **Input Record**. **System response** The system displays the ODBC Input Record Properties dialog box.
3	On the Name tab, specify the following: ◗ unique input record name and ◗ description (if applicable).
4	Select the **Key Field** tab to access the key field options.
5	Select the appropriate options to define the key field and continue with the next step.
6	Select the **Looping** tab to access the occurrence options.
7	In the Maximum usage box, type the number of times the record can repeat (loop).
8	Do you want to specify that the system automatically gets the next row from the statement record order/join? ◗ If *yes*, select that option and continue with the next step. ◗ If *no*, continue with the next step.

(Contd) Step	Action
9	Did you specify that the record repeats (loops)? ◗ If *yes*, continue with the next step. ◗ If *no*, continue with Step 11.
10	Do you want to specify an extended rule for this input record? ◗ If *yes*, select the **Loop Extended Rules** tab, define the rule, and continue with the next step. **Reference** See the *IBM® Sterling Gentran:Server® for Microsoft Windows Application Integration User Guide* for more information on extended rules. ◗ If *no*, continue with the next step.
11	Click **OK**. **System response** The system saves the input record and closes the ODBC Input Record Properties dialog box.

How to Work with Output Records

Introduction

An output record represents an UPDATE, INSERT, or DELETE SQL statement, and contains database output fields. You specify the name of the table the system modifies and whether to INSERT, UPDATE, or DELETE.

The fields contained within an output record represent the columns the system is updating or inserting and the key to the affected row or rows. Output records may be created on both the input and output sides of a map.

Note
The output record cannot be referenced by standard rules or links.

Important
Any ODBC map that uses an ODBC Output Record and is translating against a Microsoft database (Access or MSSQL Server) must turn on (activate) the "Use ANSI Quoted Identifiers" option in the ODBC DSN configuration.

Key field functionality

Output records support the standard Sterling Gentran:Server key field constant and code list functionality. Additionally, the system provides you with the ability to match against fields that appear earlier in the map. If you choose to match against an earlier mapped field, you are allowed up to three key fields.

This additional key field functionality is very useful when you are mapping from a join of master-detail records to an equivalent hierarchy, because this allows the translator to detect when the keys in the detail level no longer match the keys in the master level.

Auto get next cursor operation

If the fields of an output record all belong to the same query, you can specify that the system automatically perform an auto get next cursor operation as the output record loops.

Note
You specify the "Automatically get next row from Statement record" option on the Looping tab of the ODBC Output Record Properties dialog box.

ODBC Output Record Properties dialog box

This diagram illustrates the ODBC Output Record Properties dialog box (Name tab).
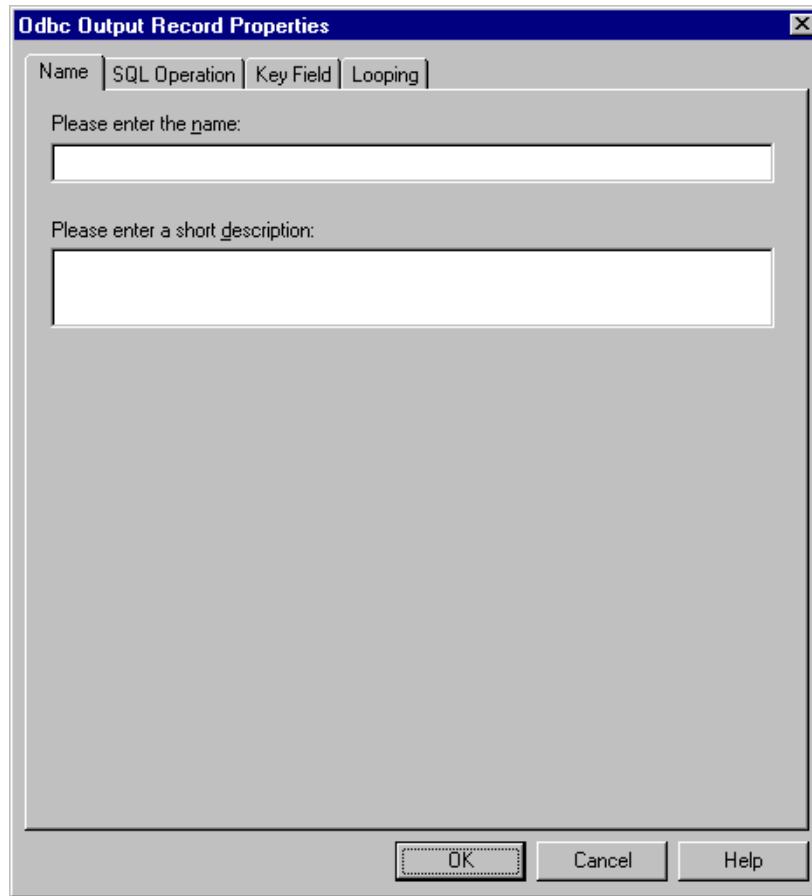
Parts and functions

This table lists the parts of the ODBC Output Record Properties dialog box and their functions.

Part	Function
Name tab	
Name	Defines the name of the output record. **Note** Do not use spaces or dashes (-) for the name. You can use the underscore (_) to separate words.
Description	Describes the output record to differentiate it from other similar records.
SQL Operation tab	
Data Source	Contains a list of the associated data sources.

(Contd) Part	Function
Table	Contains a list of the database tables for the selected data source.
Insert Update Delete	Indicates which operation the system performs against the table.
On failure, automatically switch selected operation and retry Inserts as Updates or Updates as Inserts	Indicates (if selected) that if the operation fails then the system will automatically switch the operation type (that is, update to insert or insert to update) and retry the operation. **Note** When the Delete option is selected, this check box is inactive because it does not apply to the delete operation. **Warning** If you have upgraded from a previous version of Sterling Gentran:Server and you are using the retry feature, you must update your ODBC maps by selecting this checkbox for every output record in the map.
Key Field tab	
None Use constant Use codelist Use Field	Specifies the type of information that the system uses to match this record. **Note** Selecting Use constant or Use code list activates the middle section of the dialog box. Selecting Use Field activates the bottom section of the dialog box.
Match record when key does not match	Indicates that the system should (if selected) match the record if the Key Field does not have the value specified. **Note** This gives you the ability to further recognize an ambiguous record definition.
Key Field	Contains the field that the system verifies to check if it does or does not (depending on which you specify) match the constant, code list, or field value or values.
Constants **Edit**	Contains a list of defined constants. The system will match the selected constant against the key field. To add or change a constant, click **Edit** to access the Translation Object Constants dialog.

(Contd) Part	Function
Code Lists **Edit**	Contains a list of defined code lists. The system will match the selected code list against the key field. To add or change a codelist, click **Edit** to access the Code Lists dialog.
Key Field 1	Specifies the first key field. **Note** Contains all the active fields from this record.
Use Key Field 1	Specifies that the system should use this value. **Note** Contains all the active fields from the preceding records (not including this record).
Key Field 2	Specifies the second key field, if necessary. **Note** Contains all the active fields from this record.
Use Key Field 2	Specifies that the system should use this value. **Note** Contains all the active fields from the preceding records (not including this record).
Key Field 3	Specifies the third key field, if necessary. **Note** Contains all the active fields from this record.
Use Key Field 3	Specifies that the system should use this value. **Note** Contains all the active fields from the preceding records (not including this record).
Looping tab	
Min Usage	Specifies the minimum amount of times the loop must repeat. **Note** If the Min Usage box contains a "0" (zero), the record is "conditional." If the Min Usage box contains a "1" or greater, the record is "mandatory".
Max Usage	Specifies the maximum amount of times the loop can repeat.

(Contd) Part	Function
Normal Loop Start Loop End	Indicates the type of loop. Valid values are as follows. ◗ Normal (This record is in the loop but is not the beginning or ending record) ◗ Loop Start (This record marks the beginning of the loop) ◗ Loop End (This record marks the end of the loop)
Automatically get next row from Statement record	Indicates that the system performs a movement operation as the output record loops.
Loop Extended Rules tab (only if record repeats)	
On Begin	Specifies that the extended rule is executed before the system processes the record.
On End	Specifies that the extended rule is executed after the system concludes processing the record.
Full Screen	Maximizes the dialog box.
Compile	Compiles the extended rule. Any warnings or errors are displayed in the Errors list. **Note** This function gives you immediate feedback about the accuracy of your rule. The rule is compiled when you compile the entire translation object.
Extended rule	Defines the extended rule.
Errors	Displays any errors generated when you clicked **Compile** to compile the extended rule.

Creating an output record

Use this procedure to create an output record.

Step	Action
1	Right-click a map object and select either **Create Sub** or **Insert** from the shortcut menu. **Reference** See *Overview: How to Create Map Objects* on page 2 - 13 for more information on the Create Sub and Insert functions.

(Contd) Step	Action
2	From the shortcut menu, select **Output Record**. **System response** The system displays the ODBC Output Record Properties dialog box.
3	On the Name tab, specify the following: ◗ unique output record name and ◗ description (if applicable).
4	Select the **SQL Operation tab** to access the output options.
5	From the Data Sources list, select the appropriate data source and continue with the next step.
6	From the Table list, select the table you want to modify and continue with the next step.
7	Select the appropriate table operation and continue with the next step.
8	Do you want the system to automatically switch the specified operation (that is, insert to update or update to insert) and retry the operation again? ◗ If *yes*, select the checkbox and continue with the next step. ◗ If *no*, continue with the next step.
9	Select the **Key Field** tab to access the key field options.
10	Select the appropriate options to define the key field and continue with the next step.
11	Select the **Looping** tab to access the occurrence options.
12	In the Maximum usage box, type the number of times the record can repeat (loop).
13	Did you specify that the record repeats (loops)? ◗ If *yes*, continue with the next step. ◗ If *no*, continue with Step 15.
14	Do you want to specify an extended rule for this output record? ◗ If *yes*, select the **Loop Extended Rules** tab, define the rule, and continue with the next step. **Reference** See the *IBM® Sterling Gentran:Server® for Microsoft Windows Application Integration User Guide* for more information on extended rules. ◗ If *no*, continue with the next step.

(Contd) Step	Action
15	Click **OK**. **System response** The system saves the output record and closes the ODBC Output Record Properties dialog box.

How to Work with Fields

Introduction	A field behaves differently depending on whether it is located in an input or output record.

Note
A field does not have to be associated with a query.

The system automatically selects the field type if you previously generated schema or result set information. If you did not generate a schema or result set, you must specify the field type manually.

Note
When a field has an operation performed against it (link, standard rule, or as an extended rule storage field), the system displays a red checkmark over the field icon.

Field in an input record	If the field is located in an input record, the field receives data from a column in the current row of a result set of a query. You associate the field with a column returned by a query.

Note
Column names are not available if you do not test the selected query. Instead, you must select a column number.

Field in an output record (output side of map)	If the field is located in an output record on the output side of the map, the field represents a column the system updates or inserts, or a key column. You specify the name of the column and indicate if it is a key. The system uses key columns automatically to build a WHERE clause for UPDATE and DELETE statements.

Note
If the field is contained in an output record, the validation information is set from the column to which it is mapped.

|	
Field in an output record (input side of map)	If the field is located in an output record on the input side of a map, you can specify both where the column is from and where the column data is going to in the target table.

Note
If the field is contained in an output record, the validation information is set from the columns information.

Field Properties dialog box

This diagram illustrates the Field Properties dialog box (Name tab), displayed for the input side of a map.
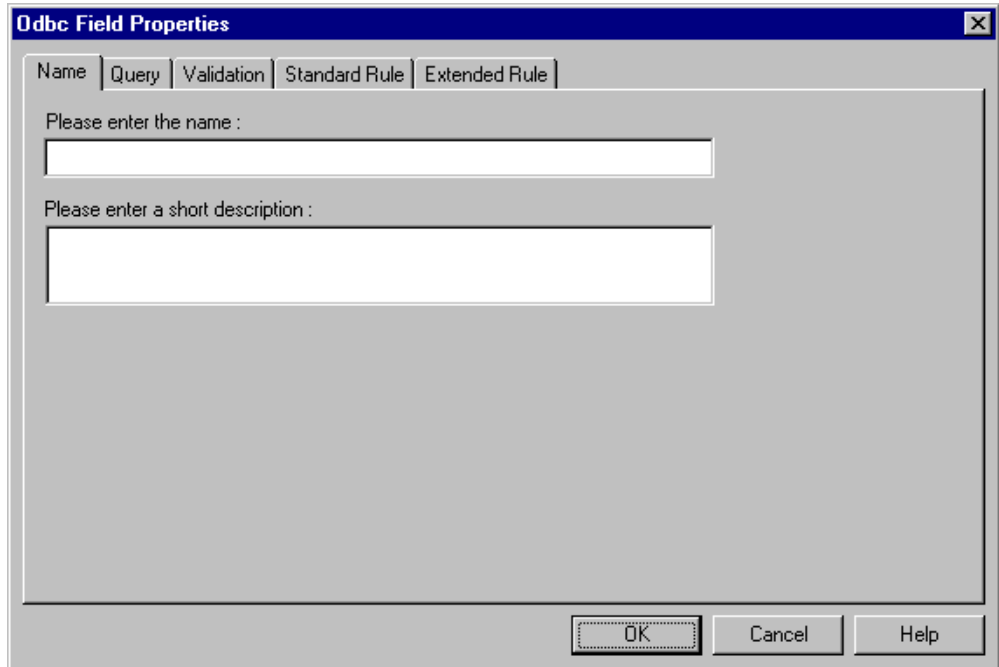
Parts and functions

This table lists the parts of the Field Properties dialog box and their functions.

Part	Function
Name tab	
Name	Defines the name of the field. **Note** Do not use spaces or dashes (-) for the name. You can use the underscore (_) to separate words.
Description	Describes the field to differentiate it from other similar fields.
Query tab (only displayed if field is contained in input record)	
Associated Statement Record	Contains a list of statement records.
Query SQL	Displays the SQL for the currently selected statement record.

(Contd) Part	Function
Name	Contains a list of column names in the result set of the currently selected statement record. **Note** This is only applicable if you specified to connect to the database and tested the SQL.
Number	Contains a list of column numbers in the result set of the currently selected statement record. **Notes** ◗ This is only applicable if you specified to connect to the database and tested the SQL. ◗ This list uses a one-based index.
Nulls Allowed	Indicates whether nulls are allowed in the column selected from the Name list. **Note** For informational purposes only.
Clear	Disassociates this field from any query.
Column tab (only displayed if field is contained in output record)	
Name	Contains a list of column names in the table which is associated with the parent output record.
Number	Contains a list of column numbers in the table which is associated with the parent output record.
Nulls Allowed	Indicates whether the system will fill in a blank field with nulls during INSERT and UPDATE SQL statement operations to the column selected from the Name list.
Table Key	Indicates that this field will be used in a WHERE clause. **Note** This enables the system to format WHERE clauses used in an UPDATE or DELETE (not applicable for INSERT operations).
Clear	Disassociates this field from any query.

(Contd) Part	Function
Validation tab	
Mandatory	Indicates whether the field is mandatory (must appear).
Minimum	Specifies the minimum length of the field.
Maximum	Specifies the maximum length of the field.
Data-type	Specifies the type of data. Valid values are: ◗ String (alphanumeric element) ◗ Number (numeric or real element) ◗ Date/Time (date or time element)
Format	Specifies how the field is formatted. **Note** Depending on which Data-type you selected, you can either select the data format from a list (if you choose Number or Date/Time in the Type field), or enter a Syntax Token to denote that this field must be formatted as the specified Syntax Token dictates. When you installed Sterling Gentran:Server, you assigned a default format to the string fields. This format serves as the basis for character validation. Most U.S. users use a default format that corresponds to ASCII characters (for example, the X syntax token). Most users of Asian or European languages and encoded character sets should use the Free Format (0x01-0xFF).
Standard Rule tab	
Standard rule	Specifies a standard rule that will affect this field or element during processing. Each of the rules are mutually exclusive. **Reference** See the *IBM® Sterling Gentran:Server® for Microsoft Windows Application Integration User Guide* for more information on standard rules.
Extended Rule tab	
Full Screen	Maximizes the dialog box.

(Contd) Part	Function
Compile	Compiles the extended rule. Any warnings or errors are displayed in the Errors list. **Note** This function gives you immediate feedback about the accuracy of your rule. The rule is compiled when you compile the entire translation object.
Extended rule	Defines the extended rule.
Errors	Displays any errors generated when you clicked **Compile** to compile the extended rule.

Creating a field   Use this procedure to create a field.

Step	Action
1	Right-click a map object and select either **Create Sub** or **Insert** from the shortcut menu. **Reference** See *Overview: How to Create Map Objects* on page 2 - 13 for more information on the Create Sub and Insert functions.
2	From the shortcut menu, select **Field**. **System response** The system displays the Field Properties dialog box.
3	On the Name tab, specify the following: ◗ unique field name and ◗ description (if applicable).
4	Is this a field on the input side of the map? ◗ If *yes*, select the **Query** tab and continue with the next step. ◗ If *no* (this is a field on the output side), select the Column tab and continue with Step 8.
5	From the Associate Statement Record list, select the record with which this field is associated and continue with the next step.
6	From the Name list, select the table name and continue with the next step. **Note** If the Name list is not available, this indicates that you did not test the SQL query. Instead, select a number from the Number box.

(Contd) Step	Action
7	Do you want to allow nulls? ◗ If *yes*, select the Nulls Allowed option and continue with Step 11. ◗ If *no*, continue with Step 11.
8	On the **Column** tab, select the column name from the Name list. **Note** If the Name list is not available, this indicates that you did not select to connect to a data source to build a table in the ODBC File Properties dialog box. Instead, select a number from the Number box.
9	Do you want to allow nulls? ◗ If *yes*, select the Nulls Allowed option and continue with the next step. ◗ If *no*, continue with the next step. **Note** This option is only applicable for fields in an output record.
10	Will this field be used in a WHERE clause? ◗ If *yes*, select the Table Key option and continue with the next step. ◗ If *no*, continue with the next step.
11	On the **Validation** tab, specify the following: ◗ whether the field is required or not, ◗ minimum length, ◗ maximum length, ◗ type of data, and ◗ how the data is formatted.
12	Do you want to specify a standard rule for this field? ◗ If *yes*, select the **Standard Rule** tab, define the rule, and continue with the next step. **Reference** See the *IBM® Sterling Gentran:Server® for Microsoft Windows Application Integration User Guide* for more information on standard rules. ◗ If *no*, continue with the next step.

(Contd) Step	Action
13	Do you want to specify an extended rule for this field? ◗ If *yes*, select the **Extended Rule** tab, define the rule, and continue with the next step. **Reference** See the *IBM® Sterling Gentran:Server® for Microsoft Windows Application Integration User Guide* for more information on extended rules. ◗ If *no*, continue with the next step.
14	Click **OK**. **System response** The system saves the field and closes the Field Properties dialog box.

Database Consistency Check

How to Check Database Consistency

Introduction   The Check Database Consistency function compares the definitions of each query, output record, and field with the associated data source, and returns a list of any inconsistencies. This function alerts you to inconsistencies in your database, but does not fix your map components.

Note
The system also checks database consistency when you update the data source (on the Data Source tab of the ODBC File Format Properties dialog box) and as the first action of compiling the map.

Example
An inconsistency occurs if a field tries to extract data from a query column that is not returned by the data source.

Checking database consistency   Use this procedure to check database consistency.

Step	Action
1	Right-click an ODBC file format object and select **Check Database Consistency** from the shortcut menu.
	System response
	The system verifies the consistency of the selected side of the map and displays the File Format Consistency Check dialog, which displays any inconsistencies.
2	Click **OK**.
	System response
	The system closes the File Format Consistency Check dialog box.

Guidelines for Creating ODBC Maps

Introduction

In this appendix   This appendix contains information on how to troubleshoot specific ODBC map problems.

Prior to calling customer support   If you are unable to resolve a problem please compile the following information prior to calling customer support:

◗   Name of the database to which you are mapping

◗   MDAC version

◗   Version of database including any service packs applied

◗   Table scripts with column, key, and index information

◗   Maps

◗   Data file

◗   Partner profile

◗   Exact error messages you received

◗   Date/time stamp on the MAPPER.EXE and TX32.EXE files in your GENSRVNT\Bin folder

◗   Description of how the map should function

Tips on Moving from Test to Production Environment

Checklist   When you move from a test to a production environment, you must verify that the following items are identical on both the development (test) controller and the production server.

◗   MDAC version

◗   Database name (if the database name is different on the production controller, you must change the name in the map)

◗   Data source names (if the database name is different on the production controller, you must change the name on the ODBC File Properties dialog box in the map)

Reference
See *How to Work with the ODBC File Format* on page 2 - 15 for more information on how to change the DSN for the map.

Tips for Inbound Mapping

Introduction   Inbound maps can use any format on the Input side and ODBC format on the Output side.

General guidelines   The following list contains general guidelines for inbound mapping.

◗   Any INSERT/UPDATE actions are not performed to the database until the Export process.

◗   If the export process contains any errors, the errors are notated in the Export Summary translator report located in the External Data browser, which is accessed from the Sterling Gentran:Server main window.

◗   If you are unable to determine why your map does not write to your database, you should run a database trace (not an ODBC trace) for the Export process only (not the process file).

◗   The database trace file supplies you with all the SQL statements built from the map by Sterling Gentran:Server, and also provides the rollback. If you need further details, you can execute the SQL statements through a query analyzer.

Tips for Outbound Mapping

Introduction   Outbound maps use ODBC format on the Input side and can use any format on the Output side.

Troubleshooting infinite loops   If your map is executing an infinite loop, you should verify the items in the following list.

◗   Determine whether the SQL Statement Record (located in the map) is checking for a specific value in a table column.

Reference
See *How to Work with Statement Records* on page 2 - 24 for more information on using SQL statement records.

◗   Verify that you included an update record in the import map.

◗   Ensure that the update record contains the key columns for the table that is updated.

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