

Oracle® Fusion Middleware

Oracle GoldenGate Release Notes for Windows and UNIX

12c (12.2.0.1)

E64454-03

January 2016

This document describes the new features, major changes, and the known issues for the 12c (12.2.0.1) release of Oracle GoldenGate for the Windows and UNIX platforms. It includes the following sections:

- [Section 1, "New Features in 12c \(12.2.0.1\)"](#)
- [Section 2, "Command Changes and Additions"](#)
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1 New Features in 12c (12.2.0.1)

This section outlines the new features that are being introduced in this release. It is divided according to each database that this release supports, followed by new features that apply to all supported databases.

- [Section 1.1, "New Core Features for Oracle GoldenGate"](#)
- [Section 1.2, "New Features for Oracle Database"](#)
- [Section 1.3, "New Features for SQL Server"](#)
- [Section 1.4, "New Features for DB2 LUW"](#)
- [Section 1.5, "New Features for Informix, MySQL, SQL/MX, Sybase, TimesTen, and PostgreSQL"](#)

1.1 New Core Features for Oracle GoldenGate

This section describes core infrastructure changes that allow the features to span multiple databases in the Oracle GoldenGate 12.2.0.1:

Metadata Encapsulation

This feature stores and forwards metadata from the source to the target and encapsulates it in each of the trail files to provide you the following benefits:

- Extract embeds metadata records into each trail file before the first `SEQUENCE` or first DML of each table. The following two metadata records are added to the trail file:
 - Database Definition Record (DDR) — database character sets, time zone, and object name case-sensitivity information.
 - Table Definition Record (TDR) — table and column definition.
- With Oracle GoldenGate the Metadata associated with each table in the replication process no longer requires the use of the `SOURCEDEFS` and `ASSUMETARGETDEFS` parameters. You can now configure replication without the need to define either of these parameters.
- You can now replicate Oracle DDL between two non-like Oracle schemas. For example, the target may have more columns than the source, such as a timestamp column.
- You can now replicate table with different column ordering without the need of `SOURCEDEFS`.
- Use of the Metadata Encapsulation feature is the default with the Oracle GoldenGate 12.2.0.1 release.
- You can easily switch between the old and new ways of resolving the table metadata by:
 - Using the new `USE_TRAILDEFS GLOBALS` parameter to control all pumps and Replicats.
 - Use the `OVERRIDE` option for individual `SOURCEDEFS` and `ASSUMETARGETDEFS` parameters in the pump or Replicat parameter files.

End to End Replication Lag

New built-in feature that provides end-to-end replication lag views without having to manually implement the heartbeat tables as described in article Doc ID 965415.1 *How to setup GoldenGate to Maintain a Heartbeat With the Database*. New commands were added to simplify this replication configuration and provide extra features including:

- Unidirectional lag from source to target.
- Automatically discovers replication flows for all replication topologies.
- Bidirectional lag when you setup in an Active-Active replication that provides both incoming and outgoing lag.
- The new Oracle GoldenGate Software Command Interface (GGSCI) command, `ADD HEARTBEATTABLE`, enables this feature. There is no need to update the parameter files of the replication processes to enable heartbeats.
- The new `GG_LAG` Database View allows you to view the end-to-end lag information.

Parameter Simplification

The use of Oracle GoldenGate parameters was simplified such that you can now:

- Get detailed help on a parameter using the `INFO PARAM` command, which gives you in depth details about the parameter and where it can be used.
- View all of the active parameters associated with the running process using the `SEND ... GETPARAMINFO` command.
- Use the new `checkprm` utility to validate your parameter files. You can use `checkprm` to ensure the validity of your parameter files before you deploy the replication to avoid syntax errors.

Trail File Extension Increase

Extending the maximum number of trail files by 1000x by extending it from a 6 digits trail file to a 9 digit trail file. This 9 digits trail file format is the default.

Automated Remote Trail File Recovery by Pump

As of version 12.1.2.1.8, Oracle GoldenGate extends its high availability capabilities by automatically handling when a target system is restored to a previous point in time. This feature also handles most cases where target trail files have been inadvertently deleted or corrupted. This is done by automatically regenerating the missing target trail data when the source trail data is available and by intelligently skipping any duplicate transactions when applying the change data.

The trail recovery process has the ability to, in some cases, automatically rebuild trail files that are corrupt or missing by Oracle GoldenGate. When an Extract pump restarts, if the trail it is writing to is missing, the Extract pump will attempt to rebuild the missing trail file on the target system. This is done automatically using the checkpoint information for the process and the last valid trail file. The Replicat process automatically skips over any duplicate data in the trail files that have been rebuilt by the new trail recovery feature. This recovery will occur as long as there is at least 1 target trail from this sequence and that the trail files still exist on the source where the Extract pump is reading them.

This process can also be used to rebuild corrupt or invalid trail files on the target. Simply delete the corrupt trail file, and any trail files after that, and then restart the Extract pump. With this new behavior, Ora we recommends that `PURGEOLDEXTRACTS MINKEEP` rules are properly configured to ensure that there are trail files from the source that can be used to rebuild the target environment. This feature requires that Oracle GoldenGate release 12.1.2.1.8 or greater is used on both the source and target servers. Do *not* attempt to start the Replicat with `NOFILTERDUPTRANSACTIONS` because it will override this default behavior and may cause transactions that have already been applied to the target database to be applied again.

Performance Toolkit Monitor

The Performance Toolkit Monitor is introduced and provides new metrics for diagnostics and tuning including the following:

- CPU
- I/O
- Transactions in flight
- Cache memory usage and statistics
- Improved capture and apply performance

These metrics are recorded in a RESTful API for use in diagnosing issues by Oracle GoldenGate Support and Development. These metrics can be used to improve CPU efficiency thus reducing load on source and target databases.

You can obtain the free corresponding Java program to configure your own monitoring system at:

<https://java.net/projects/oracledi/downloads/download/GoldenGate/OGGPTK.jar>

Note: Use of the Performance Toolkit Monitor requires an Oracle GoldenGate Management Pack license.

1.2 New Features for Oracle Database

In addition to the core features, there are multiple features specific to Oracle Databases and are described in this section.

XAG Integration

Oracle GoldenGate can be configured to be more aware of Oracle Grid Infrastructure Bundled Agents (XAG) to provide a high availability environment in a cluster configuration using the XAGENABLE parameter in the GLOBALS file. Not valid for HP NonStop platforms.

Instantiation SCN Support

Simplified the online migration with the integration with Oracle data pump. It will retain the SCN for each table and manage the point of apply for each table to better the instantiation process.

Invisible Column Support

Replication of invisible columns is now supported in Integrated Capture mode. Trail format release 12.2 is required.

Fetch from Oracle Active Data Guard Support

Integrated Extract now has the capability to fetch data from an Oracle Active Data Guard (ADG) Standby database eliminating any impact on the source database after Extract has reached steady state.

1.3 New Features for SQL Server

The following are the new features that support SQL Server specifically.

Column Character Set Encoding Support

This allows replication between databases like SQL Server to an Oracle Database when there are multiple character set encodings per table.

Capture Support for Standard Edition

Capturing DML from SQL Server Standard Edition is introduced. In the previous GoldenGate 12.1.0 release, Oracle GoldenGate only supported capture of DML from SQL Server Enterprise Edition, due to the method of enabling Supplemental Logging, which is done using a feature only available to Enterprise Editions of SQL Server. Oracle GoldenGate now enables Supplemental Logging for Standard Edition instances

using a different mechanism that is a feature of that edition. For more information, see *Installing and Configuring Oracle GoldenGate for SQL Server*.

Archived Log Mode Only

Capturing DML from only the SQL Server transaction log backups is introduced. Oracle GoldenGate can run on the database server in an Archived Log Mode (ALO) only configuration (includes Remote ALO Mode). Optionally, Oracle GoldenGate can be installed and run on a middle tier Windows server, which is the main advantage to this feature. For more information, see *Installing and Configuring Oracle GoldenGate for SQL Server*.

Compressed Log Backups

Support for SQL Server 2014 Compressed Log Backups was added.

1.4 New Features for DB2 LUW

The following is the new feature that supports DB2 LUW specifically.

Temporal tables are now supported.

1.5 New Features for Informix, MySQL, SQL/MX, Sybase, TimesTen, and PostgreSQL

There are no specific features related to the MySQL, Sybase, TimesTen, and PostgreSQL databases and all core features are available with these databases.

2 Command Changes and Additions

This section contains information about new and updated Oracle GoldenGate commands as the result of new features or functionality changes in the product for this release.

- [Section 2.2, "Automatic Heartbeat Table"](#)
- [Section 2.3, "Metadata Extract Trail"](#)
- [Section 2.4, "GGSCI"](#)

2.1 Enhanced Remote Trail Security

There is a new requirement if the target directory for incoming trails received from a remote site will *not* be residing in the GoldenGate installation dirdat directory or a dirdat subdirectory. You *must* use the ALLOWOUTPUTDIR parameter in the GLOBALS file to specify the target directory in these situations.

2.2 Automatic Heartbeat Table

These additions are the result of the new automatically generated heartbeat table.

- `[ENABLE | DISABLE]_HEARTBEAT_TABLE` — Specifies whether the Oracle GoldenGate process will be handling records from GG_HEARTBEAT table or not. When specified as a GLOBALS, it is true for the entire installation unless overridden by a specific process.

- `HEARTBEATTABLE heartbeat_table_name` — Specifies the fully qualified name of the heartbeat table. The name used to denote the heartbeat table will be used to create two other tables, *heartbeat_table_name_SEED* and *heartbeat_table_name_HISTORY*, respectively). Specifying one name will reserve all names used by the heartbeat infrastructure.

If not specified, the value in `GGSCHEMA` is used for schema name and the `GG_HEARTBEAT` is used for the name of the heartbeat table.

- `ADD HEARTBEATTABLE {, FREQUENCY frequency, RETENTION_TIME retention_time_interval, PURGE_FREQUENCY purge_frequency}` — This command does the following:
 - Creates `GG_HEARTBEAT_SEED`, `GG_HEARTBEAT`, and `GG_HEARTBEAT_HISTORY` tables in the `GGSCHEMA` and adds supplemental logging for the `GG_HEARTBEAT` and `GG_HEARTBEAT_SEED` tables.
 - Inserts a row in `GG_HEARTBEAT_SEED` with only the `LOCAL_DATABASE` column populated and `NULL` `REMOTE_DATABASE`.
 - Creates a job `GG_UPDATE_HEARTBEATS` that periodically updates `HEARTBEAT_TIMESTAMP` in every row of the `GG_HEARTBEAT` table and `GG_HEARTBEAT_SEED`.
 - If frequency is not mentioned, a default of 60 seconds is used as the repeat interval.
 - Creates a `GG_PURGE_HEARTBEATS` scheduler jobs and the procedures that periodically purges the oldest rows in the table based on the retention time that is specified. This is not supported on SQL/MX.
 - Starts the scheduler jobs.
 - For Oracle, the `ADD HEARTBEATTABLE` has to be performed in every PDB that you are interested in generating heartbeats for in CDB mode.
 - Frequency is in seconds.

Retention time is in days.

Purge frequency is in days.

- `DELETE HEARTBEATTABLE` — Removes the `GG_UPDATE_HEARTBEATS` and `GG_PURGE_HEARTBEATS` jobs and the heartbeat tables if they exist.
- `ALTER HEARTBEATTABLE FREQUENCY frequency` — Changes the repeat interval of `GG_UPDATE_HEARTBEATS`.

Alter frequency set to zero is equivalent to pausing the heartbeat. Heartbeat records can be resumed by altering frequency to a value greater than zero.

- `ALTER HEARTBEATTABLE RETENTION_TIME retention_time_interval` — Changes the heartbeat retention time specified (in days).
- `ALTER HEARTBEATTABLE PURGE_FREQUENCY purge_frequency_interval` — Changes the repeat interval of `GG_PURGE_HEARTBEATS` (in days).
- `DELETE HEARTBEATENTRY process-name` — Remove entries in the heartbeat table for processes that are no longer active.
- `INFO HEARTBEATTABLE` — Displays information about the heartbeat tables configured in the database.
- `LAG` — The `LAG` command was extended to include the new `GLOBAL` option that displays the lags in the `GG_LAGS` view.

- The Automatic Heartbeat functionality is not supported on MySQL version 5.5.

2.3 Metadata Extract Trail

This section contains information about to Oracle GoldenGate commands as a result of the metadata Extract trail enhancements.

- `EXTFILE / EXTTRAIL / RMTFILE / RMTTRAIL` — The `OBJECTDEFS | NO_OBJECTDEFS` options are added to the `EXTFILE`, `EXTTRAIL`, `RMTFILE`, and `RMTTRAIL` commands to control whether or not to include the object definitions in the trail.

When replicating from an Open Systems database to Oracle GoldenGate for HP NonStop (Guardian), specify format version below 12.2 to avoid including the object definitions in the trail since HP NonStop does not support processing object definitions from the trail.

- `SOURCEDEFS` — A new keyword, `OVERWRITE`, was added to `SOURCEDEFS` to request the application to use the definitions from the definitions file instead of the metadata. By default, the table definitions from the metadata records override the definitions from any `SOURCEDEFS` file.
- `ASSUMETARGETDEFS` — A new keyword, `OVERWRITE`, was added to `ASSUMETARGETDEFS` to request Replicat to use the definitions from the target database as the definitions for the trail records. By default, the table definitions from the metadata records override `ASSUMETARGETDEFS`.
- `SCANFORMETADATA` — This new Logdump command was added to scan for a specific metadata record.

2.4 GGSCI

This section contains information about to Oracle GoldenGate commands as a result of the parameter parsing enhancements.

- `INFO PARAM param_name` — Displays the parameter's definition information. The *param_name* specified can be a parameter, an option, or a full name that is part of the names concatenated together using period (.) as the delimiter. Following are the valid values:

```
STREAMING
RMTHOST.STREAMING
RMTHOST
RMTHOSTOPTIONS.STREAMING
TRANLOGOPTIONS.INTEGRATEDPARAM.EAGER_SIZE
```

- `GETPARAMINFO` — Queries the runtime parameter values of a running instance, including Extract, Replicat, and manager.

The syntax is: `SEND MGR|group_name GETPARAMINFO [param_name] [-f output_file]`

The default is to display all used (never been queried by the application) parameters and their current values. If a particular *param_name* is specified, then the output is filtered by that name. Optionally, the output can be redirect to a file specified by the `-f` option.

- The `ADD TRANDATA` and `ADD SCHEMATRANDATA` commands were enhanced to include the `PREPARESCN` option for the new Instantiation SCN Support feature.

- The `SET_INSTANTIATION_CSN` and `CLEAR_INSTANTIATION_CSN` commands were added to manually set and reverse instantiation.

3 Parameter Changes and Additions

This section contains information about new and updated Oracle GoldenGate parameters as the result of new features or functionality changes in the product for this release.

3.1 General Parameter Changes and Additions

This section contains information about changes to parameters that apply to all of the databases supported by this release of Oracle GoldenGate.

- A new GLOBALS parameter, `USE_TRAILDEFS | NO_USE_TRAILDEF`, was added to control where the data pump and Replicat processes obtain the table definitions when the trail files contain full table definitions; otherwise, these processes ignore the new parameters.

`USE_TRAILDEFS` forces these processes to use the table definitions from the trail unless the `OVERRIDE` keyword is specified with `SOURCEDEFS` or `ASSUMETARGETDEFS`.

`NO_USE_TRAILDEFS` forces these processes to follow the old behavior when resolving the table definitions; all table definitions from the trail files are ignored.

- A new TABLE option, `ATTRCHARSET`, was added to override the source UDT attribute level character set.
- A new Manager parameter, `VERIDATAREPORTAGE`, was added to control how long Veridata reports are kept.
- A new Manager parameter, `MONITORING_HEARTBEAT_TIMEOUT`, was added to set a process as non-responsive in a specified number of seconds.
- A new Manager parameter, `ACCESSRULE`, was added to set security access rules for Manager.
- A new Extract, Replicat, and Manager parameter, `PTKMONITORFREQUENCY`, was added to set the monitoring collection frequency interval.
- A new Extract, Replicat, and Manager parameter, `PTKCAPTUREPROCSTATS`, was added to enable the capture of process and thread statistics for the PTK Monitoring.
- A new DB2 for i Extract parameter, `TRAILCHARSETUNICODE`, was added to allow character sets that are supported by Oracle GoldenGate conversions to pass through unchanged.
- A new Manager parameter, `XAGENABLE`, was added to enable monitoring of Oracle Grid Infrastructure Bundled Agents (XAG) within Oracle GoldenGate.

4 Default Behavior Changes

This section contains changes in product behavior.

4.1 Release 12.2.0.1 - Initial Release

- The default `EXTTRAIL` and `RMTTRAIL` file sizes have changed from 100MB to 500MB.

- When running an Extract against an Oracle database and all trail file formats are greater than or equal to Oracle GoldenGate 12.2.0.1 then the following parameters are enabled by default:

```
LOGALLSUPCOLS
UPDATERECORDFORMAT COMPACT
```

- If the trail contains the metadata records, a data pump can perform data conversion and transformation without requiring a SOURCEDEFS file or source database connection.
- Both ASSUMETARGETDEFS and UPDITEMETADATA are not required when the metadata records are embedded in the trail files. In addition, Oracle GoldenGate for Oracle supports active-active DDL replication among more than two systems.
- CSN-based duplication suppression is now enabled on the Replicat side by default.
- Extract does not support writing trails in format in the 9.0, 9.5, and 10.0 releases. Pump and Replicat support reading all trail versions. For incoming trails that are in format release version 9.0, 9.5, and 10.0, the Pump writes in that same format release version.
- Extract TABLE clause parameter with the TARGET option no longer abends when the TARGET table definition is not found.
- The USENATIVEOBJECTSUPPORT option of the TRANSLOGOPTIONS parameter is now enabled by default if supported.
- The OUTPUTFILEUMASK parameter specifies an octal umask for Oracle GoldenGate processes to use when creating all files. Previously it only effected trail files and discard files.
- The CHARMAP parameter no longer needs to be placed on the first line of the parameter file.
- The new DB2 for i Extract parameter, TRAILCHARSETUNICODE, changes the behavior of Extract text data conversions. See the *Reference for Oracle GoldenGate for Windows and UNIX* for details.
- The ADD TRANDATA command was changed such that you must use a comma rather than a space (as in previous releases) with the EXCLUDELONG | INCLUDELONG options. For example:

```
ADD TRANDATA <schema.table name>, EXCLUDELONG
```
- The FETCHUSERID and FETCHUSERIDALIAS parameters were added to indicate which ADG Standby database should be used when Extract needs to fetch data.
- New options, FETCHCHECKFREQ, FETCHRETRYCOUNT, and FETCHTIMEOUT, were added to EXTRACT DBOPTIONS to control Oracle Active Data Guard fetch operations. The ADGAPPLYCHECKFREQ and ADGCRETRYCOUNT options were added to TRANLOGOPTIONS.
- The MAPINVISIBLECOLUMNS and NOMAPINVISIBLECOLUMNS parameters were added to control whether or not Replicat includes invisible columns in Oracle target tables for default column mapping.
- The metadata associated with each table in the replication process no longer requires the use of the SOURCEDEFS and ASSUMETARGETDEFS parameters. You can now configure replication without the need to define either of these parameters, see [Section 2.3, "Metadata Extract Trail"](#).

- The default is trail file sequence number is 9 digits.
- The `EAGER_SIZE` option default size was changed to 15100. Valid for Oracle integrated Replicat only and it is part of the `DBOPTIONS INTEGRATEDPARAMS` syntax. In addition, you can use the `NOUSERID` capability for Oracle downstream integrated Extract so that a connection to the source database during runtime is not required.
- Classic Extract on ADG when the ADG is behind Extract was changed to become consistent with Integrated Extract when waiting to fetch. This means it will, by default, wait 30 seconds if no MRP or no progress then abend. Classic Extract does not report when it is waiting for ADG to catch up.
- For Teradata, capture and DDL are no longer supported.

5 Installation

All Oracle GoldenGate Installing and Configuring Guides, that include all prerequisites are found at

<http://docs.oracle.com/goldengate/c1221/gg-winux/index.html>

6 Oracle Database Upgrades

Oracle GoldenGate 12.2.0.1.1 for Oracle Database is a major release and must be installed using the Oracle Universal Installer (OUI). There is no opatch upgrade path from Oracle GoldenGate for Oracle Database release 12.2.0.1.0 to release 12.2.0.1.1. If you have already installed release 12.2.0.1.0, then Oracle recommends that you wait for the next bundle patch.

7 Deprecated Parameters and Commands

This section contains information about the parameters and commands that are no longer used in this new release.

- SQL Server: The `TRUSTEDCONNECTION` option of the `DBOPTIONS` parameter is deprecated.
- The `DOWNCRITICAL` parameter is deprecated.
- The `NOHEADERS` parameter is deprecated.
- The `WILDCARDRESOLVE` and `DYNAMICRESOLUTION | NODYNAMICRESOLUTION` parameters are deprecated. With the availability of metadata in trail, immediate resolution no longer makes sense in some configurations (since the metadata may not be available at startup, because it will arrive in the trail at a later point) so these parameters were deprecated.

`SOURCEISTABLE` Extracts continue to always use `IMMEDIATE` resolution exclusively. All other configurations will default to `DYNAMIC` resolution.

Pump and Replicat can still be configured with `IMMEDIATE` resolution if `ASSUMETARGETDEFS` or `SOURCEDEFS` is specified with the `OVERRIDE` option, since in these situations trail metadata is not used so all source metadata must be available at startup and immediate resolution is possible.

Other specifications of `WILDCARDRESOLVE` or `DYNAMICRESOLUTION` (specifying `DYNAMIC` for `SOURCEISTABLE` Extract or `IMMEDIATE` for Pump or Replicat without

ASSUMETARGETDEFS, OVERRIDE, or SOURCEDEFS OVERRIDE) causes the process to output a warning and ignore the specification. Instead, the default is used, which is IMMEDIATE for SOURCEISTABLE Extract and DYNAMIC for all others.

- The two options for the RECOVERYOPTIONS parameter, APPENDMODE and OVERWRITEMODE are deprecated and no longer supported.
- The LEGACYLOBREADING option of the TRANLOGOPTIONS parameter is deprecated.
- The MAXFILES of the RMTHOST parameter is deprecated.

8 Corrected Problems

For questions on specific bugs or ticket numbers, consult Oracle Customer Support. SR is the Oracle Support SR number, and BugDB is the bug identification number.

8.1 Release 12.2.0.1.1 — 20 January 2016

Bug 20778054 - Informix: Extract capturing GGSPKUPDATE as Fieldcomp

An issue with Informix Extract capturing GGSPKUPDATE as Fieldcomp was fixed.

Bug 19764186 - SQL/MX: Replicat not writing the correct values in the discard file

An issue with an incorrect return value test on `map_column()` causing the discard value for a bad column to contain the previous columns' value was fixed.

8.2 Release 12.2.0.1.0 — Initial Release

Initial release.

9 Known Issues

For questions on specific bugs or ticket numbers, consult Oracle Customer Support. SR is the Oracle Support SR number, and BugDB is the bug identification number. The information in this section is divided into the following releases:

9.1 Release 12.2.0.1.1 — 20 January 2016

Informix Replicat tables without a primary key

Attempting to use Replicat tables that do not have a primary key can result in the Replicat abending with a No data found error. You can overcome this issue with one of the following workarounds:

- Use a primary key in your Replicat table.
- Use REPERROR parameter in the target parameter file.

9.2 Release 12.2.0.1.0 — Initial Release

LAG EXTRACT against Integrated Extract

A LAG EXTRACT command issued against an Integrated Extract does not report a zero (0) second lag. To verify that there are no pending transactions still in the system, use INFO ALL in GGSCI to show the zero lag.

***checkpoint_lox* Table for checkpoint tables**

The *checkpoint_lox* table is an "overflow" table for the checkpoint table and is only populated only when a large number of transactions share the same CSN. In most cases, the *checkpoint_lox* table is empty.

Teradata Replicats using BATCHSQL

The Teradata ODBC driver does not allow a single SQLExecute request exceeding 1 MB. This limitation can result in suspended batches and eventually a reduction in Replicat rate (throughput). You can overcome this issue with one of the following workarounds:

- Reduce the number of operations per batch. For example, use the OPSPERBATCH option.
- Run separate Replicat processes for table's with a large number of columns by setting OPSPERBATCH to a smaller value. For tables with a smaller number of columns, you can set OPSPERBATCH to a larger value to improve the throughput for such tables.

MySQL Server Crash

When a MySQL server crashes, the binary log may not be in a consistent state. The following are two possibilities when a MySQL server crashes:

- The next binary log file is created. After reaching the end of the current binary log file, Extract jumps to the next log file then starts processing the log.
- The next binary log file is *not* created. After reaching the end of the current binary log file, Extract errors with a warning. Extract is not enabled to finish processing all the records that are in memory because there may be records that have not been put in trail file and it will not abend.

Sybase Replicat Processes in BatchSQL Mode

For Sybase databases that support BatchSQL mode, when there is a single delete statement in the batch that is conflicting, Sybase processes the statement with return status of success. Since the server does not return any error, Replicat is not switching to Normal mode so the CDR statistics are not updated. This is an issue with Sybase not applicable to those versions of Sybase that do not support BatchSQL.

10 Related Documents

The Oracle GoldenGate documentation set includes the following components:

Windows, UNIX, and Linux Platforms

- *Installing and Configuring Oracle GoldenGate for DB2 for i*
- *Installing and Configuring Oracle GoldenGate for DB2 LUW*
- *Installing and Configuring Oracle GoldenGate for DB2 z/OS*
- *Installing and Configuring Oracle GoldenGate for Informix*
- *Installing and Configuring Oracle GoldenGate for MySQL*
- *Installing and Configuring Oracle GoldenGate for NonStop SQL/MX*
- *Installing and Configuring Oracle GoldenGate for SQL Server*
- *Installing and Configuring Oracle GoldenGate for Oracle TimesTen*

- *Installing and Configuring Oracle GoldenGate for Oracle Database*
- *Installing and Configuring Oracle GoldenGate for Sybase*
- *Installing and Configuring Oracle GoldenGate for Teradata*
- *Administering Oracle GoldenGate for Windows and UNIX*
- *Reference for Oracle GoldenGate for Windows and UNIX*
- *Logdump Reference for Oracle GoldenGate*
- *Upgrading Oracle GoldenGate for Windows and UNIX*
- *Error Messages Reference for Oracle GoldenGate for Windows and UNIX*

The latest edition of this and all related documents is found at

<http://docs.oracle.com/goldengate/c1221/gg-winux/index.html>

11 Getting Help with My Oracle Support

Use My Oracle Support to find knowledge solutions, workarounds, and other information that is reported by customers, partners, and Oracle employees. My Oracle Support also enables you to open a Service Request. If a patch is required to resolve a service request, you will receive instructions on how to download it from My Oracle Support.

Note: If you purchased Oracle GoldenGate and support through a distributor, contact your distributor instead of attempting to create a service request through My Oracle Support.

11.1 Viewing the Oracle GoldenGate Knowledge Base

To view the Oracle GoldenGate Knowledge Base, follow these steps:

1. Browse to the My Oracle Support web site at <http://support.oracle.com>.
2. Select your language and then log in with your email and Oracle password.
3. Click the **Knowledge** tab.
4. In the **Select a product or product line** field, enter **GoldenGate**, and then select an Oracle GoldenGate product from the context-sensitive list to narrow your results. (You may have to wait a few seconds for this list to appear).
5. In the **Enter search terms** field, enter a search keyword or multiple keywords to focus the query.

Additional information about how to use this tab is obtained by clicking **Help**.

11.2 Creating an Oracle GoldenGate Support Request Ticket

If you cannot find an answer to your question or problem in the Knowledge Base, you can open a support request ticket with Oracle Support by following these steps:

1. Browse to the My Oracle Support web site at <http://support.oracle.com>.
2. Select your language, and then sign in with your credentials. If you have not done so, you will have to register to use this web site.
3. Click the **Service Requests** tab.

4. Click **Create SR**.
5. Use the Create Service Request wizard to complete and submit your SR.
Additional information about how to use this tab is obtained by clicking **Help**.

12 Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at
<http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.

Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit
<http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info> or visit
<http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs> if you are hearing impaired.

Oracle Fusion Middleware Release Notes for Oracle GoldenGate for Windows and UNIX, 12c (12.2.0.1)
E64454-03

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